CAREER AND TECHNOLOGY STUDIES REVIEW (CTS)

REPORT

Alberta
LEARNING

Career and Technology Studies Review (CTS)
Prepared by System Improvement and Reporting Division.
October 1, 2003.

Dennis Belyk, Senior Manager
Alberta Learning
System Improvement and Reporting Division
9th floor, Commerce Place
10155 – 102 Street
Edmonton, Alberta T5J 4L5

Telephone (780) 422-3226
Toll free in Alberta by dialing 310-0000
Fax: (780) 422-8345
Email: sig@learning.gov.ab.ca

104-07337/

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Executive Summary

Career and Technology Studies (CTS) is a program with 600+ one-credit courses. This review was conducted to determine whether the CTS mandate is being met, whether students are taking advantage of the courses in the various CTS strands, and to identify key issues related to CTS and supportive implementation strategies. CTS is meeting the needs of many students in the Alberta school system. There are, however, some related issues that if dealt with would streamline CTS and make it a more dynamic program. The highlights of the findings are listed below.

1. The original CTS mandate is being achieved to varying degrees for each of the 3 purpose statements:
   - "skill development" is being achieved best;
   - "making effective career choices" is achieved fairly well; and,
   - "preparing students for the workplace" is being achieved less successfully

2. The overall enrollment in CTS for grades 10, 11 and 12 increased over the period from 130,926 students in 1998/99 to 138,062 in 2001/02, representing an increase of 5.4%, which is roughly proportionate to the increase in overall student population. Over half of the credits awarded in CTS are awarded at the introductory level, with around 30% awarded at the intermediate level, and 15% at the advanced.

3. The key themes that emerged from the research were:
   - The original mandate is being achieved to varying degrees (page 17)
   - CTS is valued as a program of choice for students (page 17)
   - There is general support for the current one-credit structure (page 17)
   - Record keeping is a huge issue at the school level (page 18)
   - Career counseling is needed in schools (page 18)
   - It is difficult to attract and retain specialized CTS instructors (page 18)
   - CTS course evergreening is not keeping up with demand (page 19)
   - CTS/CEU integrity and fairness is desired (page 19)
   - Upgrading and maintenance of equipment is an ongoing issue (page 19)
   - 'Packed' high school timetables (page 19)
   - Communication (provincially and at the district level) supporting ongoing implementation of CTS is inadequate and needs to be improved (page 20)

4. The following recommendation/implementation strategies flowed from the themes above:
   - That the current one-credit course structure be retained (page 20)
   - That career counseling in schools be identified as a priority area of support by Alberta Learning (page 20)
   - That Alberta Learning, in partnership with schools, develop or update a mark submission system for CTS that works for both the field and supports ISS processes (page 20)

- That Alberta Learning consider adding at least 1 CTS FTE (manager) to assist with evergreening/course development and support articulation of CTS with further learning institutions (page 21)
- That Alberta Learning continue to conduct CEU monitoring to ensure compliance with implementation requirements (page 21)
- That Alberta Learning conduct a study to identify best practices in schools/districts where effective strategies have been found for dealing with maintenance and replacement of dated equipment in schools with older shops and labs, to be shared with all school districts (page 21)
- That the department eliminate the acceptance of CTS 'bundled' mark submissions for 2003-04 or authorize their continued use in the context of out-of-province evaluations (page 22)
- That a communication plan be developed to support briefings on key changes and implementation strategies for schools, and teacher networking and course implementation sharing opportunities (page 22)
- That Alberta Learning undertake a study to determine how to best address the issue of 'packed' high school timetables (page 22)
- That Alberta Learning develop a research agenda on how to attract individuals with journeyman certificates to the teaching profession, and how to better organize the 600+ courses (page 23)

Introduction/Purpose

The Career and Technology Studies (CTS) program was authorized for implementation throughout the province in 1997. However, many of the strands and one-credit courses were developed and implemented on an interim basis beginning in the early 1990's. The reasons supporting a CTS review at this time are:

- The Basic Division, Alberta Learning requested this review to achieve a better understanding of the issues surrounding CTS.
- CTS has not undergone an evaluation since its inception.
- With the anticipated release of the findings from the Learning Commission, a review seems appropriate.
- There have been both informal and formal requests for a review of CTS. For example, the Alberta School Boards Association (ASBA) passed a resolution at their 2002 Fall General Meeting in support of a CTS review stating (Note: While the ASBA resolution for a review is targeted at funding, this review is a first step toward understanding the breadth of issues related to CTS):

  "The Alberta School Boards Association believes that the actual impact of CTS on students, schools, school districts, teachers, post-secondary instructors, and business and industry should be the subject of an independent study, to be funded by Alberta Learning."

This review was designed to address the following questions:

- Has the original vision/mandate of the CTS program been realized?
- To what extent have students taken advantage of the range of one-credit CTS courses?
- What are the issues associated with the implementation of the CTS program?
- Are there implementation strategies that would effectively promote increased alignment with existing policy and guidelines for delivery and funding of CTS programs?

School/district, stakeholder groups and department perspectives were identified as important sources to inform the research questions for this review.

Background

CTS was designed to provide all students with opportunities to explore career possibilities and to develop in-depth skills in areas of serious interest. This program emerged from and expanded upon the vocation education/industrial arts/home economic/business education programs of the 1970's and 1980's. More specifically, it was designed to help Alberta students:

- develop skills they can apply in daily living now and in the future
- make effective career choices
- prepare for entry into the workplace or further learning opportunities.

The three goals describe the CTS intention to provide students with basic skill development in basic 'hands-on' applications (Introductory courses), breadth of opportunity to explore career possibilities (Intermediate courses) and support in-depth

workplace skill development (Advanced courses). The CTS curriculum is competency-based, and organized around 22 strands. Each strand represents a group of courses designed to support positive career and occupational opportunities. There are more than 660 one-credit courses. Schools have a responsibility to plan and deliver CTS programs that meet the needs of students and facilitate transitions to further learning and the workplace.

CTS shares responsibility for delivering career-related education with other core and optional program areas and courses. It is intended to play an important role along with other programs like Work Experience, Career and Life Management (CALM), Registered Apprenticeship Program (RAP), Integrated Occupations Program (IOP) and Green Certificate in supporting career development for students. These programs use CTS and other courses for credentialing and possible entry into post-secondary institutions. As well, CTS is linked to areas such as graduation requirements and the Campus Alberta concept, which addresses transitions to post-secondary and work.

Related Monitoring Activity

Credit Enrolment Unit (CEU) monitoring is currently being conducted throughout the province. The funding of the one-credit CTS courses is part of this monitoring activity and issues that have been identified as a result of this activity have been integrated into the issues identification section of this report. The monitoring is initially being conducted at select sites. It will be some time before the number of sites monitored will be sufficient to get an 'across the province' picture.

Methodology

This was a qualitative review based on 87 interviews with CTS teachers, principals/administrators, stakeholders (including parents), CTS students, and department employees involved with CTS programs to various degrees (See Appendix 1 for a list of groups interviewed). The main goal was to:

- Consult with stakeholders and those involved with CTS about the extent to which the original vision/mandate of the program has been realized.
- Identify CTS implementation issues from both department and field perspectives.

Additionally, a data analysis of CTS course completions from 1998/99 – 2001/02 was completed to review the participation of students in all 22 strands and each of the individual one-credit courses.

Limitations

The following limitations should be regarded when reviewing the findings of the data analysis:

- The project timelines ran from April to the first week in October, 2003. This left only May and June to complete the interviews before the summer school break, which in turn left July and August for data analysis, and September for the actual writing of the report.
- It was not possible in the confines of this study to isolate individual students and follow their CTS completions throughout high school. As a result, all data is

based on anonymous student completions and represents CTS credits awarded unless otherwise noted.

- A small percentage of the overall credits awarded were reported in bundled courses (see Appendix 7). A bundled course is a group of one-credit courses, usually 3 to 5 credits, combined under a strand name for which only one mark is submitted for the new 'bundled' course. For the 97/98 school term, schools and school systems had a choice in reporting student achievement in CTS either by the 'bundled' course or the one-credit course name. However, this was to have ended after August 31, 1998, and bundled mark submissions were no longer to be accepted. Nonetheless, some bundled credits continue to be reported and students are being awarded credits in CTS, but for which one-credit courses is unknown. Therefore, credits reported in bundled courses were included in the overall analysis of credits awarded, but were removed from examinations of credits awarded within strands.
- This was a qualitative review. Despite the fact that ordinal level data is presented in Table 1 (for example), this should not be mistaken for scientific data. Because of the small sample size, the lack of controls, and the selection methodology of interviewees, larger generalizations should not be made on the basis of these results. Rather, Table 1 is useful in that it points to some general areas of inquiry that are then further explored by analyzing the interview responses. In the qualitative methodology, the role of the researchers is vital in that often their perceptions and opinions about the respondent's reactions to questions create more insightful observations and recommendations than the answers alone. Thus, there is a great deal of subjectivity in a qualitative study that should not be ignored (i.e. students were selected for interviews by school staff).

Results in Relation to Research Questions

The following research questions were developed to provide focus and direction for this project.

1. *Has the original mandate been met?*
2. *To what extent have students taken advantage of the range of one-credit courses?*
3. *What are the key issues associated with the program?*
4. *What implementation strategies would support/enhance CTS?*

This first CTS review is intended to provide an initial description of the general successes and issues related to CTS. The tight timelines prevented any in-depth exploration of specific issues or strengths.

1. Has the original mandate been met?

<u>Key Finding</u> - The original CTS mandate is being achieved to varying degrees for each of the 3 purpose statements:

- ***"skill development" is being achieved best;***
- ***"making effective career choices" is achieved fairly well; and,***
- ***"preparing students for the workplace" is being achieved less successfully***

The original mandate of CTS included these 3 priorities in support of student learning. The review directly addressed the extent to which the different survey groups felt that the CTS program had achieved this original mandate. In addition to a scale response (1 to 5 where 1 means 'not at all' and 5 means 'very much so'), respondents were provided the opportunity to comment on each mandate statement (see Table 1).

Scale (1-5) Results for Each Mandate Statement by Interview Subgroup

Interview Group	*Results*	*Develop Skills*	*Career Choices*	*Entry into Workplace*	*Overall Impression*
Principals/Administrators	N	16	16	16	13
	Mean	4.2	3.6	3.2	3.6
Teachers	N	19	19	19	18
	Mean	3.8	3.6	3.3	3.6
Students	N	13	13	12	11
	Mean	4.5	4.2	4	4.2
Stakeholders	N	14	14	13	11
	Mean	3.6	3.5	3.5	3.7
Department Staff	N	15	14	15	16
	Mean	3.8	3.2	3.5	3.5
Overall	N	77	76	75	69
	Mean	4.0	3.6	3.5	3.7

(Table 1)

Overall, scale scores are strongest for the developing skills mandate. Students responded with the most positive scores, however, this was expected knowing that teachers selected the students to be interviewed. This was done to ensure the students would be comfortable with the interview process. Alberta Learning representatives had the lowest, yet still positive responses overall. School system and school based groups tended to respond most positively to students developing important skills, with slightly lower responses for CTS supporting career choice and then again somewhat lower scores for CTS supporting entry into the workplace. It is interesting to note that Alberta Learning (Department staff) representatives' views are more positive for how well CTS prepares students for the workplace than for supporting broad career exploration. However, in the open-ended comments below Alberta Learning responses are consistent with the comments made by others.

Respondents were invited to make comments in relation to each CTS goal. The most frequent comments are shown below (the bracketed #s indicate the frequency of comments).

First: To develop skills they can apply in daily living, now, and in the future

Principals/System Administrators

"Good balance of skills to be used presently and perhaps in the future" (12)

"Students have limited time to do broad exploration" (2)

CTS *Teachers/Coordinators*

"All useful skills developed even if only first level taken by students" (12)

"Hands on is limited due to resources" (4)

Stakeholders and Parents

"Excellent. Introductory courses are great" (8)

"CTS is not very effective at doing this (There are exceptions that do support this)" (4)

Students

"Yes. Teaches us skills we can use" (15)

Department Staff

"Statistics show that more students are learning skills. Greater completions in introductory courses" (7)

"Not sure if we have accomplished this" (5)

Second: Make effective career choices

Principals/System Administrators

"Students get a lot of exposure" (10)

"Depends on the teacher and focus of the program (Counselors value university education- career counseling should be improved)" (3)

CTS Teachers/Coordinators

"Yes, wide range of choice for students" (13)

"To have more impact students would need to be open to trying a variety of strands" (5)

Stakeholders and Parents

"Counselors aren't trained in career counseling" "Students need to connect to workplace" (13)

"Yes. CTS exposes students to different areas. Helps students decide what they want to do." (9)

Students

"CTS makes you more aware of career opportunities" (14)

Department Staff

"Students don't make the connection between CTS and careers." "School counselors don't have enough time to devote to career choices and smaller schools don't have career counselors" (10)

"Gives students a broad view of trade options. Helps students to screen out areas" (6)

Third: Prepare for entry into the workplace or further learning opportunities

Principals/System Administrators

"General skills are developed, but not in-depth" (7)

"The students who take the modules for further training opportunities appear to do well in NAIT/SAIT" (4)

CTS Teachers/Coordinators

"CTS helps as a starting point" "Gives students a chance to try things out" (10)
"Yes, CTS should reflect labor/workplace needs." "We should partner with industry to ensure standards" (9)
"No, there's a big gap between CTS courses and trade requirements." "I don't think workplace entry is a reasonable expectation after 3 levels of a high school program of studies" (7)

Stakeholders and Parents

"Very good for prep. into workplace." (6)
"Needs more integration with onsite experts" (4)

Students

"Yes. I got a job because of my CTS experience" (9)
"Not so much" (3)

Department Staff

"Poor. Not effective" (7)
"Good if done the way they are intended" (6)

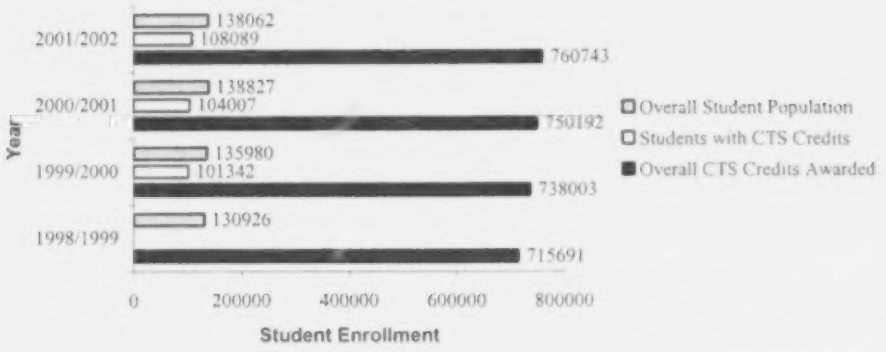
The most positive comments in support of CTS meeting its mandate are for the development of skills that student can apply. Similarly, CTS is viewed as helping students to make effective career choices. In some cases, CTS is effective in helping students to decide what they do not want to do, which is also a valuable outcome of the program. CTS is viewed to be less effective in preparing students for the workplace or for further learning opportunities. General skill development, lack of 'trades' teachers and the need for more onsite learning opportunities are a few of the comments that suggest CTS is not as effective as it could be in achieving the mandate of helping students with entry into the workplace.

2. To what extent have students taken advantage of the range of one-credit courses?
Students have the opportunity to take courses from a variety of career related areas across the strands. In order to answer this question, an analysis of the CTS course completion data was conducted. Data for 1998/99, 1999/00, 2000/01, and 2001/02 were extracted from the COGNOS reporting system and the following graphs and tables were produced. Each section will be subsumed under a 'Key Finding' heading stating the findings for the specific area of enquiry, with noted exceptions.

<u>Key Finding</u> - The number of credits awarded in CTS each year is increasing roughly proportionate to the student population

Graph 1 shows the total number of credits awarded for all 22 strands in each year. For completions in individual strands for each year, see Appendix 2.

Overall Student Population, Population with a CTS Credit, and Overall CTS Credits Awarded in All Strands



(Graph 1)

The overall enrollment in grades 10, 11 and 12 increased over the period from 130,926 students in 1998/99 to 138,062 in 2001/02, representing an increase of 5.4%. The percent gain in CTS credits awarded over the same period was 3.1%. However, the number of individual students who were awarded at least one CTS credit in Grade 10, 11 or 12, rose from 101,342 in 1999/00 to 108,089 in 2001/02- an increase of 6.7%. Thus, CTS credits awarded seem to be increasing roughly proportionate to the student population.

In order to determine whether or not the increase in credits awarded noted in graph 1 was occurring uniformly across all strands, the percent change in credits for each strand was analyzed. The overall percent change for CTS, as a whole was 6.3% (see Table 2 below), with a range of negative 31.5% in Financial Management, to a high of 121.6% in Logistics. However, the low N in Logistics makes this seem disproportionately high. The gain in terms of credits awarded in Logistics was only 45, compared to Career Transitions which had the largest gain in credits awarded with a base number of 53,807 in 1998/99, compared to 90,370 in 2001/02.

Percent Change in Credits Awarded by Strand (From 98/99 to 01/02)

Strand	Percent Change	1998/99 n	2001/02 n
Financial Management	-31.5%	32,380	22,195
Tourism Studies	-24.1%	10,114	7,679
Enterprise and Innovation	-23.5%	6,550	5,012
Management and Marketing	-22.1%	8,280	6,450
Career and Technology Studies	-13.3%	195	169
Electro-technologies	-11.5%	7,129	6,308
Information Processing	-10.7%	192,206	171,668
Mechanics	-3.1%	48,936	47,433

Strand	Percent Change	1998/99 n	2001/02 n
Agriculture	-1.1%	3,188	3,153
Design Studies	0.1%	30,696	30,732
Construction Technologies	1.3%	45,330	45,913
Legal Studies	7.2%	21,126	22,648
Foods	7.9%	87,141	94,055
Fabrication Studies	10.8%	18,163	20,127
Community Health	16.9%	32,760	38,308
Cosmetology	19.3%	34,663	41,338
Forestry	19.9%	2,931	3,514
Communication Technology	23.7%	54,260	67,121
Wildlife	31.8%	7,474	9,848
Fashion Studies	39.8%	14,262	19,945
Energy and Mines	64.3%	4,063	6,675
Career Transitions	68.0%	53,807	90,370
Logistics	121.6%	37	82
Overall	6.3%	715691	760743

(Table 2)

Key Finding ***- The majority (over half) of the CTS credits awarded each year are at the introductory level***

As stated on Alberta Learning's CTS curriculum structure website, **Introductory** level courses help students build daily living skills and form the basis for further learning. Introductory courses are for students who have no previous experience in the strand. **Intermediate** level courses build on the competencies developed at the introductory level. They provide a broader perspective, helping students recognize the wide range of related career opportunities available within the strand. **Advanced** level courses refine expertise and help prepare students for entry into the workplace or a related post-secondary program.[1]

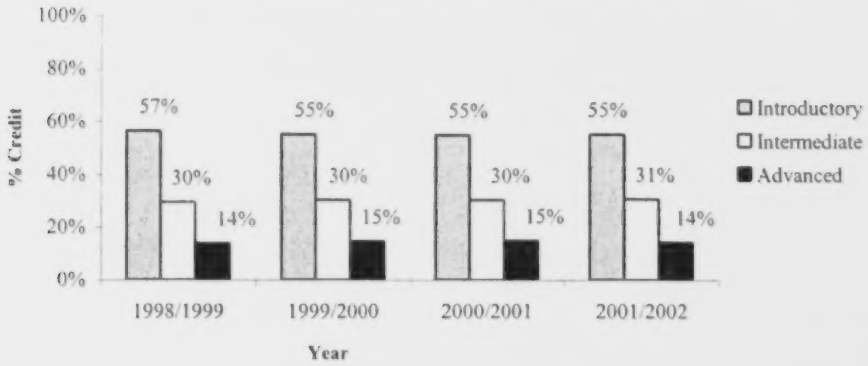
Graph 2 below shows the percentage of credits in each year that were awarded at the introductory, intermediate and advanced levels. The same general pattern is repeated within most strands (see Appendix 3). The exceptions however are Management and Marketing, Legal Studies, Forestry, and Community Health, as noted in Graphs 3-6 below.

Although Logistics varied from the pattern as well, it was treated as an outlier rather than an exception owing to the small sample size its percentages are based on[2].

[1] Copied from http://www.learning.gov.ab.ca/k_12/curriculum/bysubject/cts/structure.asp

[2] This applies similarly to subsequent analyses in this study.

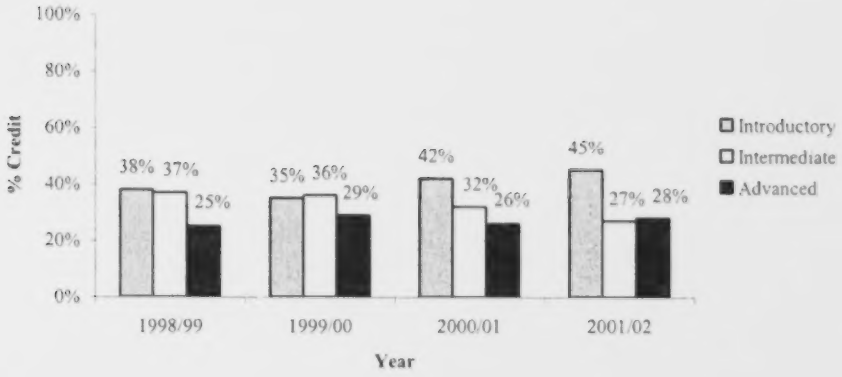
Percentage of Credits Awarded Yearly Separated by Level



(Graph 2)

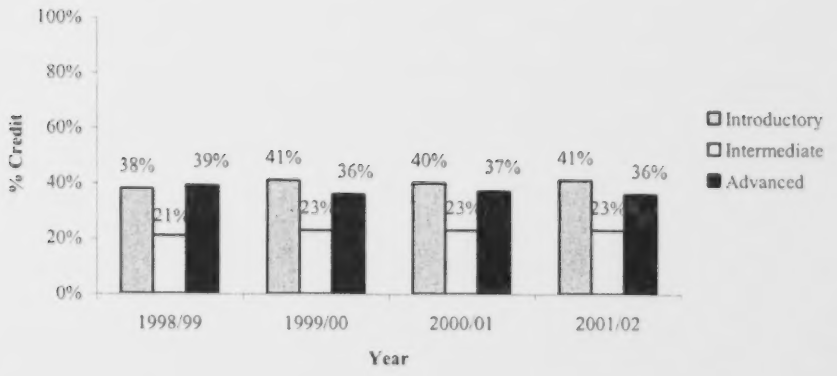
Exceptions to Graph 2

Management and Marketing



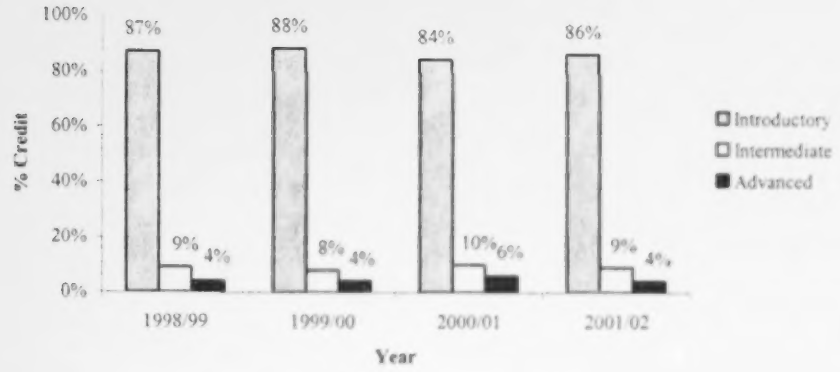
(Graph 3)

Legal Studies



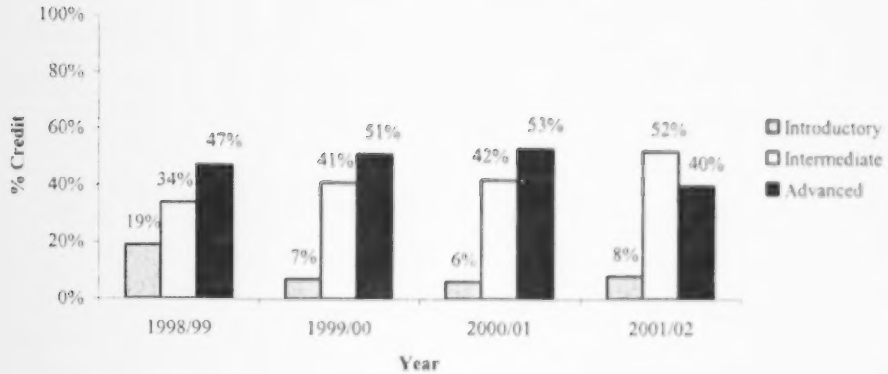
(Graph 4)

Forestry



(Graph 5)

Community Health

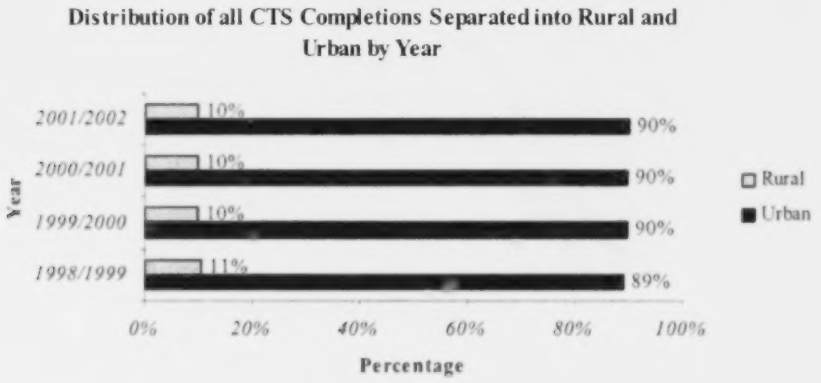


(Graph 6)

***Key Finding* - Most of the credits completed (approximately 90%) were completed in urban centers, where a corresponding number of the students (approximately 90%) reside**

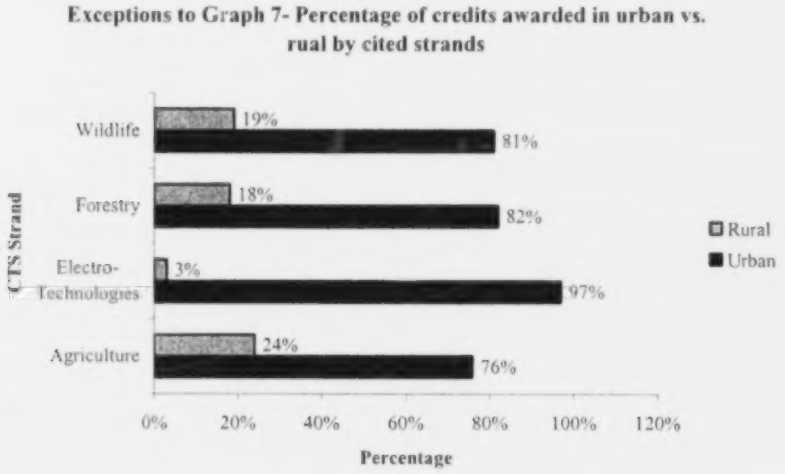
Graph 7 shows the percentages of CTS credits that were completed in "urban" and "rural" jurisdictions. For the purpose of this study, Statistics Canada's five typologies of enumeration areas were used to classify Alberta Learning jurisdictions as urban core, urban fringe, rural fringe, urban area outside urban core, or rural. For a more complete explanation of Statistics Canada's definitions and how they are applied to Alberta Learning jurisdictions, see Appendix 4. These were then re-coded into either "urban" or "rural" wherein urban core, urban fringe and urban areas outside of urban cores were combined to form "urban"; and rural and rural fringe were combined to form "rural". It should be noted that the overall population of students in grades 10, 11, and 12 in the

province were similarly analyzed using the same urban rural definitions, and that analysis noted that approximately 90% of the students for this cohort attend urban schools.



(Graph 7)

The division of urban and rural completions within strands again followed the overall trend for the most part (see Appendix 5), with the exceptions of Agriculture, Electro-technologies, Forestry, and Wildlife as noted in Graph 8.



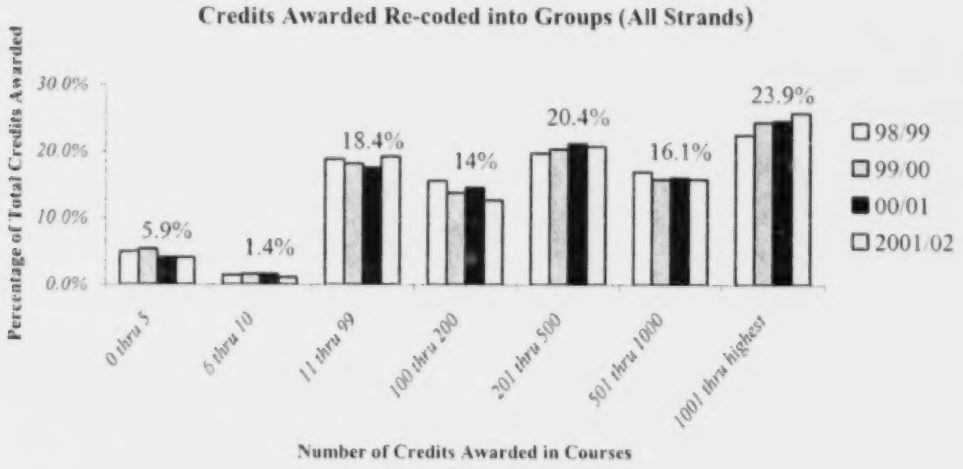
(Graph 8)

<u>Key Finding</u> – In most courses (approximately 75%) 100 or more credits are awarded per year

In order to determine the degree to which various strands offer courses that are widely utilized, the number of completions in each one-credit course for every strand in each year of the study was recoded into the following categories (Note: the categories below were selected for description purposes only):

- 0-5 credits awarded
- 6-10 credits awarded
- 11-99 credits awarded
- 100-200 credits awarded
- 201-500 credits awarded
- 501-1000 credits awarded
- 1001 – highest credits awarded

It was noted that approximately 6% of the 1-credit courses (or about 40 courses) had 0-5 credits per year awarded in them, and roughly 75% of the one-credit courses had 100 or more credits awarded in them per year[3]. Graph 9 shows the percentages for each group based on the number of completions awarded in each cohort over the total completions per year with the overall average (all years combined) for each cohort noted above the bar graphs.



(Graph 9)

To further study this, all courses in all years were examined to determine if there were any specific strands or courses that continually had low numbers of completions. 600 of the 634[4] courses had completions in every year, 14 courses had no completions in at least one year, 11 had no completions in at least 2 years, 5 had no completions in at least three years, and 1 had no completions in any of the years. Table 3 notes some of the courses that have historically awarded few credits.

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[3] For this analysis, bundled courses were omitted.

[4] Eight of the courses began in 2001/02 and as such were omitted from this analysis. Conversely, two courses were withdrawn in September 1999, and were likewise omitted.

Courses with Traditionally Low Enrollment

Strand	*Course Name*	*1998/99*	*1999/00*	*2000/01*	*2001/02*	*Total Credits Awarded*
Energy &Mines	*Energy & the Environment (ENM3010)*	0	18	40	79	137
	Oil Sand/Heavy Oil/Coal 1 (ENM2030)	23	32	57	5	117
	Conventional Oil/Gas 1 ((ENM2020)	0	52	15	35	102
	Market Basics & Trends (ENM3080)	85	15	1	0	101
	Oil Sand/Heavy Oil/Coal 2 (ENM3030)	28	3	57	5	93
	Sustainable Energy (ENM3050)	17	1	33	0	51
	Conventional Oil/Gas 2 (ENM3020)	0	22	2	14	38
	Energy Designs/Systems 2 (ENM3090)	16	0	2	6	24
	Industrials Materials (ENM3070)	0	1	0	0	1
	Integrated Resource Mgmt (ENM3100)	0	0	2	6	8
	Metals/Nonmetals 2 (ENM3040)	0	0	1	0	1
Logistics	*Traffic & Transport 1 (LOG1030)*	16	5	3	3	27
	Warehouse & Distribute 1 (LOG1020)	5	3	4	11	23
	Traffic & Transport 2 (LOG2020)	0	2	0	1	3
	Warehouse & Distribute 2 (LOG2010)	1	2	0	0	3
	Traffic & Transport 3 (LOG3020)	0	1	0	1	2
	Inventory Management 2 (LOG3040)	1	0	0	0	1
	Warehouse & Distribute 3 (LOG3010)	0	1	0	0	1
	Purchasing 1 (LOG1040)	0	0	0	0	0

(Table 3)

Conversely, Table 4 below shows some of the courses that traditionally have the highest credits awarded.

Courses with Traditionally High Credits Awarded

Course Name	**1998/99**	**1999/00**	**2000/01**	**2001/02**	**Total C**
Computer Operations (INF1010)	27,013	24,855	23,291	19,077	94,236
Keyboarding 1 (INF1020)	22,684	21,895	21,062	19,510	85,151
Word Processing 1 (INF1030)	20,652	20,031	19,484	18,592	78,759
Spreadsheet 1 (INF1060)	14,615	14,711	15,315	15,203	59,844
Job Preparation (CTR1010)	12,692	13,749	14,849	17,714	59,004
Food Basics (FOD1010)	12,991	13,266	13,174	14,050	53,481
Information Highway 1 (INF1090)	13,488	13,468	13,275	12,535	52,766
Baking Basics (FOD1020)	10,148	10,561	10,740	11,737	43,186
Keyboarding 2 (INF2030)	10,073	9,795	9,963	9,454	39,285
Graphics Tools (INF1040)	9,834	9,373	9,860	9,412	38,479
Basic Tools & Materials (CON1010)	8,691	8,237	8,104	8,704	33,736
Project 1A (CTR1110)	7,773	8,232	7,987	8,099	32,091
First Aid/CPR (CMH2120)	5,519	6,742	7,904	9,771	29,936
Database 1 (INF1050)	8,134	8,033	7,427	5,701	29,295
Vegetables/Fruits/Grains (FOD2080)	7,040	6,821	6,463	6,914	27,238
Milk Products & Eggs (FOD2060)	6,129	6,006	5,818	5,695	23,648

(Table 4)

3. What are the key issues associated with the program?

This question also elicited the strengths of CTS. Highlights of both the strengths and the issues related to the CTS program are shown below for each group surveyed. For a full list of responses and questions see Appendix 6.

Key Finding* – *Most of the interviewees liked the flexibility of the one-credit course structure and think CTS is great in that it allows students the opportunity to explore many different areas. However, staffing, record keeping and maintaining/purchasing of specialized equipment are all seen as problem areas

Principals/System Administrators

Strengths:

"Provides a range of career exploration" (9)
"Teachers can adapt programs" (6)
"CTS supports links to well defined career pathways" (5)
"Practical hands on engagement in a variety of courses" (5)

Issues:

"Staffing. It's hard to find CTS teachers" (12)
"Upgrading of equipment is expensive and hard to keep current" (8)
"Record keeping for one-credit courses is a huge task" (8)
"Space to handle reasonable sized labs" (8)

CTS Teachers/Coordinators

Strengths:

"Flexibility of one-credit course structure allows students to try a lot" (16)
"CTS is excellent 'hands on'. Students can do things" "Students can have 'hands on' learning" (6)
"Gives students a chance to complete the needed credits" (5)
"Self-satisfaction. Re: completing projects" (4)

Issues:

"Info processing equipment/software is outdated" "Funding is inadequate" (13)
"Timetable doesn't allow academic students to fit in advanced level courses" (11)
"Record keeping is onerous. Both marks and keeping track of materials used"
"Student Information Reporting System is dreadful" (9)
"Some alternate teacher training/update strategies are needed in fast growing skill areas" (9)
"Real problem finding teachers that have expertise" (9)

Stakeholders and Parents

Strengths:

"Opportunity to explore areas is excellent" (8)
"Flexibility of one-credit structure" (7)
"Hands on learning is excellent" (4)
"Curriculum documents are excellent" (4)

Issues:

"Staffing. Can't find expert teachers" (19)
"Funding. Equipment is expensive. More funding for equipment is needed" (9)
"School systems don't promote CTS as a viable alternative" (9)
"Students that take only one beginning level course don't get a good basis in the strand" (8)
"Articulation to post-secondary should be adopted as a goal by AL" (7)

Students

Strengths:

"Like how it's one-credit at a time" (4)
"Like the hands on work" (4)
"Learn many things" (4)
"Break from academic work" (3)

Issues:

"Never any major problems" (7)
"Some labs don't have up to date [equipment], so we're at a disadvantage" (2)
"I had a hard time accomplishing some things" (2)
"Info. Pro. was too easy" (2)
"Classes are too big" (2)
"Good teachers are key" (2)

Department Staff

Strengths:

"Allows students to explore areas of interest" (17)
"Flexibility and choice afforded by the one-credit module" (12)
"Competency outcome structure very positive" "Excellent curriculum" (6)

Issues:

"Funding for CTS is inadequate. Higher end courses are expensive" (7)
"Trained staff not always available" "Staff shortages" (7)
"Lack of communication about CTS to schools" (7)
"Courses should be bundled" "CTS use of one-credit is confusing in the field and some schools still want to bundle for convenience" (6)
"Career pathways aren't clearly defined" (6)
"CTS is viewed as most appropriate for non-academic students" (6)

4. What implementation Strategies would support/enhance CTS?

<u>Key Finding</u> – Support exists for compliance monitoring, improved communication related to CTS implementation, greater support by the department for updating CTS courses and provincial leadership in facilitating articulation between CTS and post-secondary institutions

Principals/System Administrators

"Move back to per pupil funding (3 years per pupil). Then, move to CEU in 4th year in high school" (10)

"CTS teacher training needs improvement" (6)

"Enhanced communication re: CTS for staff to know how best to manage and deliver CTS (6)

"Need a better record keeping system" (5)

CTS Teachers/Coordinators

"Increased CEU monitoring is good. (Keeps people honest)" (8)

"Alberta Learning Needs to develop better record keeping system- give teachers incentives to upgrade" (6)

"3-5 credits would help gauge learning mid-term better" (6)

"Communication technology/Information processing need updating" (5)

Stakeholders and Parents

"Incentives to attract CTS teachers (i.e. advance placement on grid) are needed. AL should look for industry sponsorship for individuals to be trained in industry and university" (18)

"Strong communications to promote CTS to students and a clearinghouse of ideas" (10)

"Alberta Learning should facilitate articulation better" (10)

"More resources" (8)

Students

(Students were not asked this question)

Department Staff

"Maintain on-site monitoring and remove funding if non-compliance is identified" (18)

"Improved communication with all aspects of delivery" (9)

"Better prep at university with compulsory courses related to CTS" (5)

"Relate skills and knowledge more directly to career choices and pathways" (4)

"A province-wide campaign to revisit CTS" (4)

Related areas of interest that were explored with the surveyed groups

Curriculum Documents: Programs of Study, CTS Guide to Standards and Implementation, and CTS Manual for Administrators and Teachers

Respondents that were familiar with the various documents mostly valued and indicated support for the quality of the documents. It is interesting to note that certain documents that should be familiar or used by some individuals were not known or not used. For example, 2 out of the18 teachers indicated they hadn't read the CTS Guide to Standards and Implementation related to the strands they were teaching. Similarly, 2 out 10 Administrators not only weren't familiar with, but didn't know about the CTS Manual for Administrators and Teachers.

Other Support Documents: Funding Manual and the Guide to Education: ECS-Grade12
Two key documents related to the implementation of the CTS program are the Funding Manual and the Guide to Education: ECS-Grade12. The feedback related to these two documents was typically general without harsh criticism of either received. There was support for and confidence in the processes for the annual review and updating of these two documents. The occasional comment was made that more effort should be directed to ensuring that these two documents complement rather than conflict with each other.

Key Themes Based on Interview Results
Generally, CTS is recognized as being unique from the academic programs offered in high schools. Features that distinguish CTS include: frequent and ongoing review of course content and standards (i.e. Information Processing courses), need for equipment and consumable materials that support hands on learning, safety concerns always loom large, and a reliance at times on 'trades' type teacher expertise that isn't traditionally acquired at universities. In this context, the following themes have emerged from the data collection activities that took place.

1. *The original CTS mandate is being achieved to varying degrees for each of the 3 purpose statements:*
   - 'skill development' is being achieved best;
   - 'making effective career choices' is achieved fairly well; and,
   - 'preparing students for the workplace' is being achieved less successfully

   The design of CTS indicates that the advanced level courses are intended to provide the in-depth skill development necessary to facilitate preparing students for the workplace. Data shows that only about one in seven of the course completions annually are in advanced CTS courses. This may be one of the reasons that CTS is deemed to be having minimal impact for this goal.

2. *CTS is valued as a program of choice for students*
   The structure of CTS is deemed a vast improvement over the former vocational program approach. The main points received in support of CTS were:
   - Flexibility: student choice and program packaging at the school level
   - Skill development: good development of skills used every day
   - Career exploration: students can try a variety of areas to help decide what they may like to pursue as a career or what they don't want to pursue

3. *Most individuals support the current one-credit structure for CTS*
   A few individuals suggested packaging of CTS at the provincial level. When probed, these individuals supported this view to eliminate the onerous and time-consuming record-keeping requirements and mark-submission processes that accompany one-credit courses. Of those teachers and administrators who supported packaging, they indicated that it should be left up to school to package sets of courses that meet their student population and programming needs.

4. *Record keeping is a huge issue at the school level*
This issue was communicated with the most emotion during the data collection process. There are basically two issues that were mentioned by most school administrators:
   - Documentation associated with one-credit CTS courses is huge and horrendous; nearly all schools have hired additional staff to handle the volume of record keeping work required
   - Sufficient support has not been provided for the development of 'reporting' software that works without error; some school districts have developed their own software at their own cost; there is a strong view that the department has absolved itself of the responsibility to ensure that 'working' software is available to schools by leaving it up to vendors to develop or provide modified software (i.e. Student Information Reporting System- SIRS); current vendor supplied software applications continue to be a source of aggravation (i.e. tracking pre-requisites problems was noted by several schools and most schools have had to hire additional staff to deal with CTS recordkeeping). Interestingly, Alberta Learning staff cites untrained school staff using existing available software as the main concern in this area.

   Information and Strategic Services (ISS) staff at Alberta Learning, are aware of this ongoing concern and noted that it would be beneficial if vendors could provide an effective electronic record-keeping system for schools to use. This would help resolve problems with pre-requisites and schools submitting bundled course completions. At present, ISS staff does not discriminate when entering data submitted (bundled submissions are recorded as they are received). Credits continue to be awarded in many bundled courses beyond the department set 'end dates' for those courses. A data tracking or monitoring system within the department that could routinely catch pre-requisite problems and 'bundled' course submissions would also be desirable.

5. *The need for career counseling in schools*
In most cases, effective career counseling, as distinct from guidance counseling, is lacking or non-existent at the school level, but needed. The historical reliance on guidance counselors to integrate career counseling as one of their roles doesn't seem to be working. Special training and dedicated career counseling time are two important aspects that are currently not in place.

6. *Staffing is difficult for CTS*
Finding qualified CTS staff is one of the most challenging aspects of running a CTS program. Some administrators commented that programs have had to be 'shut down' because CTS expertise couldn't be found. At times, when a CTS teacher could be hired or assigned, the CTS program was often organized around the skills and interests of that teacher. While administrators saw this as acceptable, program continuity is jeopardized each time there is staff turnover. Issues identified that respondents feel need to be addressed include:
   - Training at universities

- Finding a way to bring trades expertise into the teaching force
- Teacher PD and upgrading
- Communication of best practices/ideas for improved implementation

7. *CTS course evergreening is not keeping up with demand.*
   The evergreening of CTS is viewed as an essential requirement of the CTS program to ensure content currency and standards. The main point made by most of the individuals interviewed was that while the 1 FTE that AL allocates to CTS achieves a lot, the vastness of the program requires more support than the 1 FTE can provide. While the department has developed a very functional approach to evergreening based on the 1 FTE allocated, additional FTE's are needed to ensure better support of CTS through more timely review, development and/or deletion of obsolete courses. As well, additional FTE support would facilitate activities such as taking provincial leadership in the promotion and development of articulation agreements with post-secondary institutions. Post-secondary institutions require assurance of up-to-date content and standards, and regular review of pre-requisite requirements. It may even be desirable to consider 2 additional FTE's for a period to meet the workload.

8. *CTS/CEU integrity and fairness.*
   CTS/CEU issues need to be addressed to create a culture of fairness and integrity related to the CTS program. There is currently a view in the field that some schools are inappropriately claiming CTS funding without an adequate response by the department. More monitoring is desired and supported if abuse is to be dealt with.

9. *Upgrading and maintenance of CTS equipment is an ongoing issue*
   While inadequate funding of CTS was raised frequently as an issue, specific problematic areas were also identified during the interview process:
   - New equipment and upgrading of equipment is expensive
   - Maintenance/ replacement is expensive and the need in this area is ongoing
   - Software and licensing are high cost items

   Space and facilities issues related to funding were not huge issues in facilities that were new or had received significant modernization in the last 5 or 6 years. Space and facility issues were frequently mentioned in older facilities. Some districts have created CTS centers in schools that serve the broader district needs by bringing students to a well-equipped school. This 'pooling of resources' appears to support a broader range of programming for students especially in areas where there are a number of smaller schools.

10. *'Packed' High School Timetables*
    High school timetables are too crowded with academic requirements to support CTS for all students (especially for academic students wanting to take CTS). The introduction of the second language requirement further compounds this problem.

11. *Communication (provincially and at the district level) supporting ongoing implementation of CTS is inadequate and needs to be improved.*
The CTS newsletter is viewed as a valuable resource to CTS teachers. However, in itself, it neither provides for the general ongoing promotion of CTS at the local level that is needed nor the strong networking/sharing of resource requirements that would make implementation easier. A familiar comment from teachers was that they felt they continually needed to defend and promote CTS to their principals and to the their communities. Principals and teachers felt a strong need for ongoing 'workshop/information' type sessions that assist with implementation.

Recommendations

These recommendations address the key themes that emerged from the research:

1. **That the current one-credit course structure be retained in the CTS program.**
Comment: The one-credit course approach provides excellent support for career exploration by students and allows timetable flexibility for the school and students.

2. **That career counseling in schools be identified as a priority area of support by Alberta Learning.**
Comment: Career counseling is typically assumed to be the responsibility of guidance services, despite the fact that school counselors are typically not trained in career counseling. As well, personal counseling and student scheduling take up a significant portion of a guidance counselor's time, leaving limited time for career development activities for either the teacher or the students. Support for career counseling could also provide students with better access to aptitude and interest assessment tools while they are in school.[3] *Career counseling does not just start in high school, therefore, a K-12 approach to career counseling would support a continuous, systematic approach in career development.*

3. **That Alberta Learning, in partnership with vendors and possibly select school districts, develop or update a mark submission system for CTS that works for both the field and supports ISS processes.**
Comment: SIRS is the main vendor provided record- keeping system in use by schools for reporting student data. While the researchers did not directly test the software themselves, sufficient school and ISS feedback suggests there are problems with pre-requisites, reporting credits in expired courses, and the onerous nature of CTS record-keeping. Thus, a review of how well the present record-keeping system is supporting the CTS program is warranted. At the moment, it is a source of concern and complaint to the extent that several school districts have developed their own software for CTS record-keeping. Red Deer

[3] See Oregon's Effective Counseling for School-to-Work at http://www.ode.state.or.us/opte/STW/CounsSTW.htm

Catholic is one such district. When asked about potentially sharing their system provincially, they remarked that they had not given the idea much thought, but indicated the possibility of supporting it. They have supported/financed the development of their own software without help from Alberta Learning or any vendors.

4. **That Alberta Learning consider adding at least 1 CTS FTE (manager) to assist with evergreening/course development and support articulation of CTS with post-secondary institutions.**
   Comment: There are growing areas of concern and need within CTS that the current 1 FTE cannot meet. Two of these are: extended evergreening/development of courses (especially in Information Processing and Communication Technology), and development of articulation between CTS and post-secondary institutions. Strong views were expressed that Alberta Learning needs to accept more responsibility for articulation at the provincial level instead of just letting 'pockets' of agreements emerge. While the addition of 1FTE is recommended, the addition of 2 FTE's would greatly assist in reviewing/updating all the courses, possible realignment of the strands and promoting provincial articulation with post-secondary institutions.

5. **That Alberta Learning continue to support CEU monitoring to ensure compliance with implementation requirements.**
   Comment: There is strong support for ensuring compliance in schools in relation to CTS/CEU issues. Monitoring/evaluation activities were frequently mentioned as important for CTS to ensure CTS program integrity.

6. **That Alberta Learning conduct a study to identify best practices in schools/districts where effective strategies have been found for dealing with maintenance and replacement of dated equipment in schools with older shops and labs; these best practices should be shared with all school districts.**
   Comment: Some schools, even those with older shops and labs, seem to be able to deal with this problem more effectively than others. The high schools with shops and equipment 5 - 6 years or older all communicated significant issues with equipment maintenance and/or replacement. Everyday use by students of technical and potentially dangerous equipment (i.e. table saws, band saws, hoists, etc.) requires regular maintenance to ensure student safety. However, when a maintenance and repair strategy is used in an attempt to extend the life of old equipment, that jurisdictions cannot afford to replace, safety concerns often emerge. This recommendation would need to be developed through consultation with the field as some school districts have adopted 'magnet' school strategies to provide 'fully-equipped' shops/labs with sufficient student numbers to run programs. This strategy is being used in both rural and urban settings.

7. **That the department eliminate the acceptance of CTS 'bundled' mark submissions for 2003-04 or authorize their continued use in the context of out-of-province evaluations.**

   Comment: Course bundling was officially withdrawn in 1997/98. Marks for bundled courses continue to be received in 2002/03. In the two full years of complete data when it could be expected that mark submissions for bundled courses would not have been received anymore, 3,719 credits were awarded for bundled courses in 2000/01, and 3,955, in 2001/02 (see Appendix 7). These bundled credits have been awarded as a result of out-of-province evaluations. Alberta Learning has addressed this issue of the ongoing need that schools have to be able to recognize previous learning through the 5-credit bundled course structure (for out-of-province students only). Any impact on pre-requisite requirements in future years when CTS courses are taken needs to be addressed as well for the out-of-province students that are awarded CTS bundled course credits. It is time to deal with this issue as the end date for the bundled courses was August 31, 1998.

8. **That a communication plan be developed to support the following (ideas for consideration in brackets):**
   - **Briefings on key changes and implementation strategies for school administrators (i.e. annual or bi-annual regional workshops or information sessions)**
   - **Teacher networking and course implementation sharing opportunities (consider re-instituting the CTS Summer Leadership Seminar that was held in Olds)**

   Comment: Teachers and administrators often expressed the feeling that they have been left 'out in the wilderness' to fend for themselves when it comes to implementing CTS. Internal department staff expressed confidence that the extensive set of documents supporting CTS provide a solid base for CTS implementation. Beyond the programs of study, the view generally expressed by teachers and administrators was that there is far too much to read, even by those individuals who have read and used the documents. In short, more documents may not be the best solution to enhance implementation. Other strategies are needed, particularly those that support face-to-face idea sharing.

9. **That Alberta Learning undertake a study to determine how to best address the issue of 'packed' high school timetables.**

   Comment:

   CTS teachers, students and school administrators frequently commented that students' high school timetables are often too 'packed' or crowded to let them take many CTS or other optional courses. This is especially true for academic students. If it is not already being done, it may be appropriate at this time to review high school graduation requirements specific to required courses, and the appropriate balance between required and optional credits. Other areas of study that may inform how this concern could be dealt with might include

an analysis of instructional/non-instructional teacher days; daily school activities that erode direct instruction time; and/or, how to capture/add additional instructional time. The focus of this would be to examine how high school timetables could support increased opportunities for access to a wider range of CTS and other optional courses.

10. **That Alberta Learning develop a research agenda around the following topics:**
    - **How can individuals with journeyman 'trade' certificates be attracted to the teaching profession to address teacher shortages?**
    - **Is there a better way to organize the 600+ courses other than around the existing 22 strands so as to better support career pathways and articulation between CTS and career areas (i.e. around broader sectors of the economy)? (See Appendix 8 for an example of Oregon's approach.)**

    Comment: Research regarding how to find the right CTS teaching expertise is a complicated matter and needs to be addressed. As well, the 660+ courses organized into 22 strands is daunting and might benefit from a restructuring that would make the courses more presentable from an articulation or career sector perspective.

Appendix 1- Interviewee Groups

The following groups were interviewed/consulted:

Stakeholders	Alberta Home and School Council Association Alberta School Boards Association Alberta School Business Officers Association Alberta Teachers' Association College of Alberta School Superintendents Careers: the Next Generation Nothern Alberta Institute of Technology NorQuest College Southern Alberta Institute of Technology TechPrep University of Alberta University of Lethbridge
District/Principals/Administrators/ Teachers/Students	Aspen View Battle River Calgary Catholic Calgary Public Edmonton Catholic Fort McMurray Grasslands Northern Lights Peace River Prairie Rose Red Deer Catholic
Alberta Learning	Corporate Services Curriculum Governance and Program Delivery Field Services Finance French Language Services Information and Strategic Services Learning Technologies Learning and Teaching Resources System Improvement Group

Appendix 2 – Number of courses in each strand, average credits awarded in courses by strand, and median credits awarded in courses by strand

Strand	*Total number of courses*	*Average number of credits awarded per year per course*	*Median number of credits awarded per year per course*
Agriculture	33	88	43
Career Transitions	34	2,135	1,200
Community Health	34	834	447
Construction Technologies	46	963	273
Cosmetology	58	650	315
Design Studies	31	979	368
Electro-technologies	38	177	62
Energy and Mines	25	225	65
Enterprise and Innovation	8	684	498
Fabrication Studies	41	463	188
Fashion Studies	29	594	281
Financial Management	15	1,774	872
Foods	37	2,428	1,318
Forestry	21	159	36
Information Processing	55	3,302	969
Legal Studies	13	1,611	1,137
Logistics	10	5	1
Management & Marketing	21	300	194
Mechanics	54	862	554
Tourism Studies	24	373	190
Wildlife	17	525	256

Appendix 3- Percentage of credits awarded at the introductory, intermediate, and advanced levels by strand

Note- Percentages have been rounded and may not always add up to 100%

Strand		*1998/99*	*1999/00*	*2000/01*	*2001/02*	*Total*
Agriculture	Introductory	54%	62%	59%	60%	60%
	Intermediate	26%	18%	20%	19%	23%
	Advanced	19%	20%	21%	21%	18%
Career Transitions	Introductory	56%	54%	57%	58%	57%
	Intermediate	25%	26%	26%	25%	25%
	Advanced	19%	20%	17%	17%	18%
Career and Technology Studies	Introductory	73%	78%	79%	66%	61%
	Intermediate	19%	22%	15%	31%	26%
	Advanced	8%	0%	5%	3%	13%
Communication Technology	Introductory	61%	58%	57%	57%	61%
	Intermediate	30%	31%	31%	31%	28%
	Advanced	9%	11%	13%	12%	11%
Community Health	Introductory	19%	7%	6%	8%	16%
	Intermediate	34%	41%	42%	52%	38%
	Advanced	47%	51%	53%	40%	46%
Construction Technologies	Introductory	64%	62%	62%	64%	63%
	Intermediate	26%	28%	27%	26%	26%
	Advanced	10%	10%	11%	10%	11%
Cosmetology	Introductory	52%	53%	52%	54%	52%
	Intermediate	30%	30%	31%	29%	29%
	Advanced	17%	17%	17%	17%	18%
Design Studies	Introductory	65%	65%	66%	65%	66%
	Intermediate	17%	19%	18%	19%	19%
	Advanced	17%	17%	16%	16%	15%
Electro-technologies	Introductory	66%	65%	64%	65%	67%
	Intermediate	25%	27%	28%	27%	25%
	Advanced	9%	7%	8%	8%	8%
Energy and Mines	Introductory	24%	27%	31%	38%	33%
	Intermediate	65%	68%	63%	58%	60%
	Advanced	12%	5%	7%	4%	7%
Enterprise and Innovation	Introductory	57%	50%	53%	54%	55%
	Intermediate	34%	41%	38%	38%	35%
	Advanced	9%	9%	9%	8%	10%

Strand		*1998/99*	*1999/00*	*2000/01*	*2001/02*	*Total*
Fabrication Studies	Introductory	58%	58%	59%	62%	59%
	Intermediate	33%	31%	31%	29%	30%
	Advanced	9%	11%	9%	9%	11%
Fashion Studies	Introductory	55%	57%	56%	56%	59%
	Intermediate	37%	36%	37%	35%	33%
	Advanced	7%	7%	7%	9%	8%
Financial Management	Introductory	63%	64%	63%	62%	62%
	Intermediate	26%	26%	27%	27%	26%
	Advanced	11%	10%	10%	11%	12%
Foods	Introductory	40%	41%	41%	41%	45%
	Intermediate	48%	46%	46%	46%	42%
	Advanced	13%	13%	13%	13%	13%
Forestry	Introductory	87%	88%	84%	86%	88%
	Intermediate	9%	8%	10%	9%	9%
	Advanced	4%	4%	6%	4%	4%
Information Processing	Introductory	67%	67%	67%	67%	67%
	Intermediate	25%	26%	25%	26%	25%
	Advanced	7%	8%	8%	8%	8%
Legal Studies	Introductory	40%	42%	40%	41%	37%
	Intermediate	21%	23%	23%	23%	26%
	Advanced	39%	36%	37%	36%	37%
Logistics	Introductory	81%	57%	74%	71%	72%
	Intermediate	16%	37%	26%	28%	26%
	Advanced	3%	7%	0%	1%	2%
Management and Marketing	Introductory	38%	35%	42%	45%	43%
	Intermediate	37%	36%	32%	27%	33%
	Advanced	25%	29%	26%	28%	24%
Mechanics	Introductory	54%	53%	54%	53%	54%
	Intermediate	31%	31%	31%	31%	30%
	Advanced	15%	16%	15%	16%	16%
Tourism Studies	Introductory	73%	68%	64%	63%	70%
	Intermediate	16%	22%	26%	19%	19%
	Advanced	11%	11%	10%	17%	11%
Wildlife	Introductory	78%	77%	71%	76%	76%
	Intermediate	20%	21%	22%	16%	20%
	Advanced	2%	2%	7%	7%	4%

Appendix 4 – Explanation of urban rural split based on Statistics Canada definitions

(Copied from ISS Methodology Document)

Statistics Canada defines a number of standard geographic areas, deemed as either administrative or statistical. The most important ones for the purpose of this proposal are the following:

- **Enumeration Area (EA)** — This is the geographic area canvassed by one census representative. It is the smallest standard geographic area for which census data are reported. All of the territory of Canada is covered by EAs. Enumeration areas are mapped to postal codes, such that every postal code is associated with one and only one enumeration area.
- **Census Agglomeration (CA)** — This is a large *urban area* (known as the *urban core*) together with adjacent urban and rural areas (known as *urban* and *rural fringes)* that have a high degree of social and economic integration with the urban core. A CA has an urban core population of at least 10,000. Once a CA attains an urban core population of at least 100,000, it is eligible to become a CMA.
- **Census Metropolitan Area (CMA) —** This area is similar to a census agglomeration, but the population of a CMA has an urban core population of at least 100,000.

Statistics Canada assigns every enumeration area an urban/rural status according to five classifications. Thus, since every postal code is associated with one and only one enumeration area, and every enumeration area is assigned an urban/rural status, it is possible to assign Alberta schools an urban/rural status based on the postal code of the school mailing address.[6] *A new field of 'city urban/rural status' (eaurban_rural) could be added to the sidprod.orgadd table, and users would be able to choose schools according to the urban/rural status of the school mailing postal code. Statistics Canada classifies enumeration area urban/rural status according to five types:*

1. **Urban core** — a large urban area around which a CMA or a CA is delineated. The urban core must have a population (based on the previous census) of at least 100,000 in the case of a CMA, or between 10,000 and 99,999 in the case of a CA.
   - Representative units: Medicine Hat, St. Albert, Edmonton
2. **Urban fringe** — the urban area within a CMA or CA that is not contiguous to the urban core.
   - Representative units: Beaumont, Devon
3. **Rural fringe** — all territory within a CMA or CA not classified as urban core or urban fringe.
   - Representative units: Calmar, Morinville

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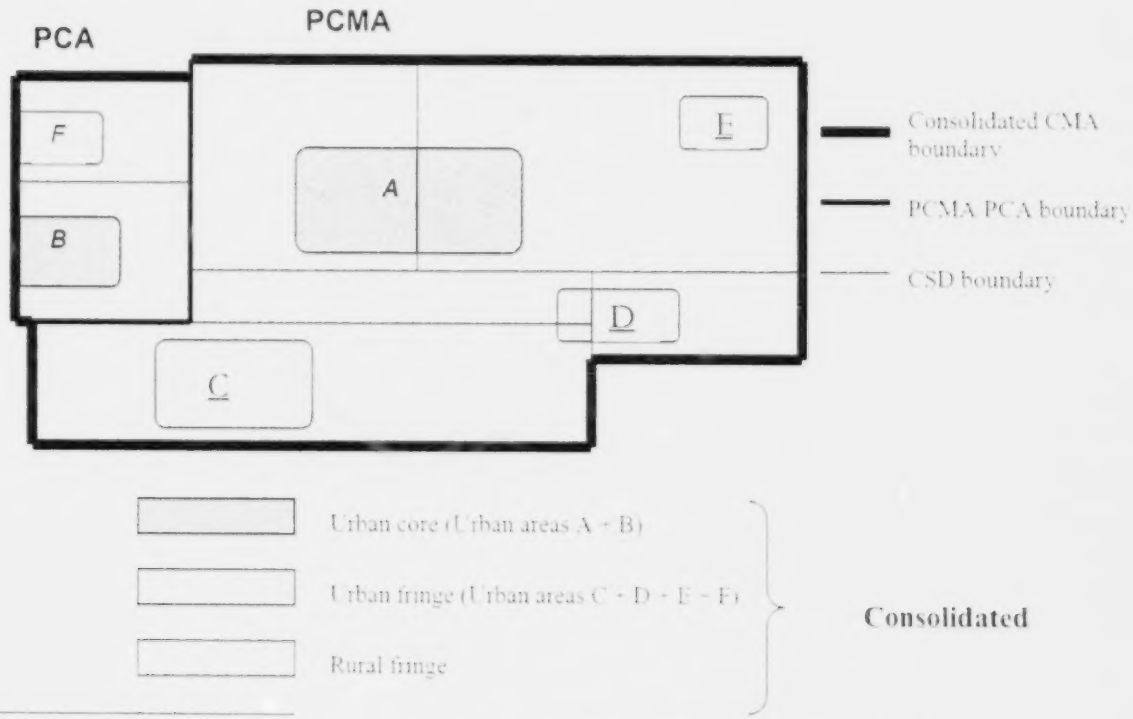
[6] Approximately 53 Alberta Learning schools have a *mailing* address postal code which differs from the *delivery* address postal code, 23 of which would undergo a change in urban/rural status if the latter were to be used as the basis for code assignment. An analysis of these schools indicates that the mailing address is as good an indicator of the actual school location as the delivery address.

4. **Urban area outside CMAs/CAs** — any area defined as urban which does not lie within a CMA or CA. This comprises any urban area outside of large urban centres. Alberta has two CMAs — Edmonton and Calgary, and nine CAs: Camrose, Grand Centre, Grande Prairie, Lethbridge, Lloydminster, Medicine hat, Red Deer, Wetaskiwin, and Wood Buffalo. Any urban area outside of these centres would be classified as an urban area outside CMAs CAs.
   - Representative units: Drumheller, Hinton
5. **Rural area outside CMAs/CAs** — an area defined as rural which does not lie within a CMA or CA.
   - Representative units: Athabasca, Evansburg

The urban core, urban fringe and rural fringe distinguish between central and peripheral urban and rural areas within a census metropolitan area (CMA), primary census metropolitan area (PCMA), census agglomeration (CA) and primary census agglomeration (PCA). Figure 1 presents a clear picture to help explain what an *urban core, urban fringe* and *rural fringe* are. An *urban area outside CMAs CAs* is assigned to any urban area outside the area demarcated by the darkest solid line (consolidated CMA boundary), and a *rural area outside CMAs CAs* is assigned to any rural area not located within this same boundary.

Figure 1*
Consolidated CMA, Showing Urban Core, Urban Fringe and Rural Fringe



* Adapted from Figure 31, page 231 in: Statistics Canada. *1996 Census Dictionary*. Ottawa: Industry Canada, 1997. 1996 Census of Canada. Catalogue Number 92-351-XPE.

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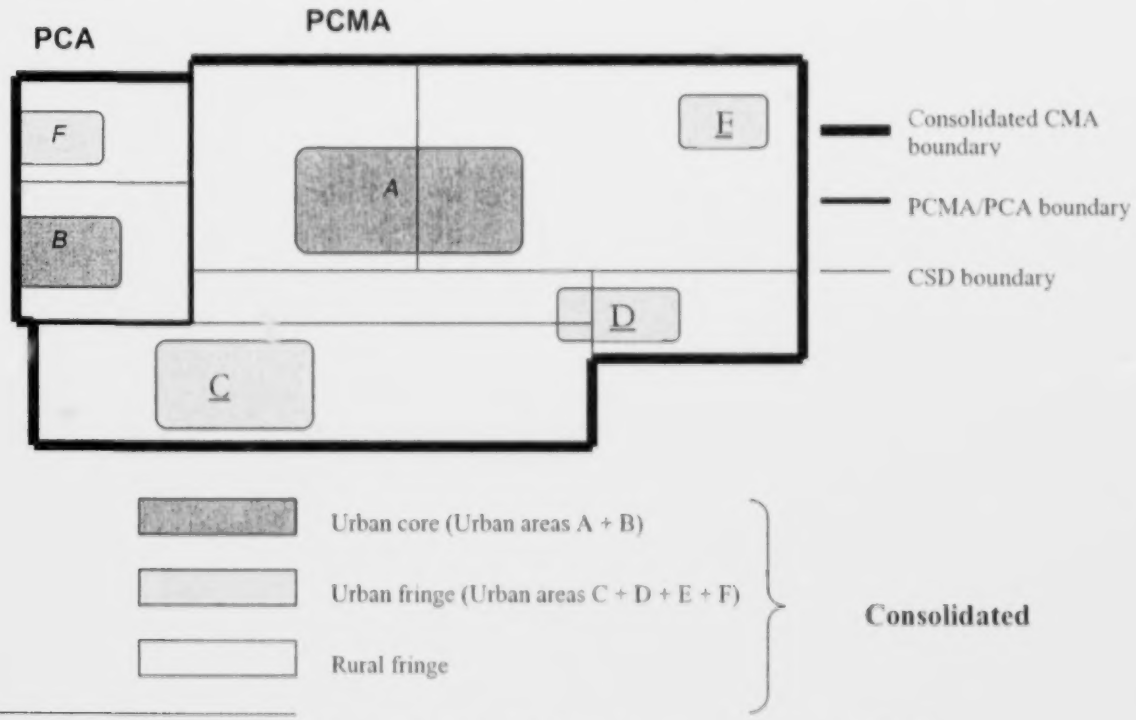
The urban core, urban fringe and rural fringe distinguish between central and peripheral urban and rural areas within a census metropolitan area (CMA), primary census metropolitan area (PCMA), census agglomeration (CA) and primary census agglomeration (PCA). Figure 1 presents a clear picture to help explain what an *urban core, urban fringe* and *rural fringe* are. An *urban area outside CMAs/CAs* is assigned to any urban area outside the area demarcated by the darkest solid line (consolidated CMA boundary), and a *rural area outside CMAs/CAs* is assigned to any rural area not located within this same boundary.

Figure 1[7]
Consolidated CMA, Showing Urban Core, Urban Fringe and Rural Fringe



[7] Adapted from Figure 31, page 231 in: Statistics Canada. *1996 Census Dictionary*. Ottawa: Industry Canada, 1997. 1996 Census of Canada. Catalogue Number 92-351-XPE.

EIS recommends this option for assigning all active schools an urban/rural status. It is a consistent definition, since it uses Statistics Canada's well established and well defined criteria for assigning enumeration areas an urban or rural status. By using the postal code translator file from Alberta Treasury which EIS currently subscribes to, the ea urban_rural indicator could be automatically updated each time an update is received (currently quarterly), obviating the need for any hard coding. One consideration which needs to be borne in mind is that this procedure would only assign schools having a mailing address in Alberta, so would not classify any NWT schools, Saskatchewan schools, or any schools having an invalid Alberta postal code. Second, there is no necessity for a place name to only appear *once and only once* in these categories, *unless* the urban-rural classification is going to be based on place names, as opposed to the postal code of the school's mailing address.

Table 4 presents a breakdown of Alberta Learning schools by their proposed urban/rural status.[8] If the recommended procedure for assigning an urban/rural status is adopted, approximately 75% of schools would be classified as urban, with just over half of all schools (54%) classified as *urban core* schools. Conversely, 22% of schools would be classified as rural, with most of these (403 of 481 schools) classified as *rural area outside CMAs/CAs*.

Although, as mentioned, there is no requirement for a place name to be associated with only one urban/rural category, virtually all municipalities in Alberta would be so coded. As shown in Table 5, only 17 municipalities would contain schools with two different urban/rural statuses. As an example, while 33 schools have a mailing address in Sherwood Park, 27 of these schools would be classified as *urban core* schools, and six would be classified as *rural fringe* schools. This would occur because those six schools would have a postal code associated with the rural component of Sherwood Park. Thus, this process for assigning urban/rural statuses to schools would be able to differentiate between schools residing in the urban and rural areas of major centres, and is thus to be recommended over simply classifying all schools located in one municipality as either urban or rural.

Table 4
Number and percentage of Alberta Learning schools, by urban/rural status

Urban/rural status	Number of schools	Percentage of schools
Urban core	1190	54.4
Urban fringe	70	3.2
Urban area outside CMAs/CAs	445	20.4
Rural fringe	78	3.6
Rural area outside CMAs/CAs	403	18.4
All statuses	**2186**	**100.0**

[8] Data as of June 30, 2000.

Table 5
Place names containing more than one school urban/rural status classification

Place name	Urban core	Urban fringe	Urban area outside CMAs/CAs	Rural fringe	Rural area outside CMAs/CAs
Athabasca			5		1
Bellis				1	6
Calgary	505			2	
Lethbridge	80				1
Longview			1		3
Morinville		11		1	
Okotoks	1				16
Saddle Lake			1		3
Sherwood Park	27			6	
Slave Lake			8		2
Spruce Grove	7			9	
St. Paul			6		5
Stony Plain		12		2	
Sylvan Lake			7		1
Taber			20		1
Three Hills			4		1
Vermilion			7		3

Reporting Caveats

When reporting on urban/rural school status, it is recommended that the following considerations be communicated to clients when filling information requests:

- The basis of the urban/rural school indicator is the current mailing address of active schools. Schools not having a valid Alberta postal code will not be classified. Schools not having a current mailing address will not be classified. As of June 29, 2000 there are 9 schools that will not be classified. None of them have registrations but 4 of them have course completions.
- It is *schools* which are classified as urban or rural, and not *students* attending those schools; the urban/rural school indicator as defined cannot be used to definitively generalize about the students attending those schools.
- Some schools may be inappropriately classified either because of their special features (eg. distance learning institutes such as the *Alberta Distance Learning Centre*) or because the mailing address is not reflective of the school's location (e.g. schools which have the authority address as their mailing address).
- There is no necessity for a place name to appear *once and only once* in these categories; some municipalities will contain *both* urban and rural schools.
- If reporting is being done on the basis of the minor classification (the five types of urban/rural status) as opposed to the major classification (urban vs. rural), the graphic represented in Figure 1 can be provided along with the data to aid in interpretation.

Appendix 5 – Percentage of credits awarded in urban and rural areas by strand

Note- Because of rounding, not all urban rural percentages will add up to 100%. Additionally, all percentage totals are based on columns.

Strand		*1998/99*	*1999/00*	*2000/01*	*2001/02*	*Total*	
Agriculture	Urban core	45%	54%	55%	54%	52%	
	Urban fringe	5%	3%	3%	2%	2%	Urban
	Urban area outside urban core	26%	17%	21%	22%	22%	76%
	Rural fringe	6%	4%	3%	3%	3%	Rural
	Rural area outside urban core	18%	22%	19%	19%	20%	24%
	Not Applicable	1%	0%	0%	0%	0%	
	Urban Rural	100%	100%	100%	100%	100%	
Career Transitions	Urban core	62%	65%	63%	65%	63%	
	Urban fringe	5%	4%	4%	4%	4%	Urban
	Urban area outside urban core	21%	19%	20%	20%	21%	88%
	Rural fringe	4%	4%	5%	4%	4%	Rural
	Rural area outside urban core	8%	7%	8%	7%	8%	12%
	Not Applicable	0%	0%	0%	0%	0%	
	Urban Rural	100%	100%	100%	100%	100%	
Communication Technology	Urban core	72%	73%	71%	71%	72%	
	Urban fringe	4%	4%	5%	6%	5%	Urban
	Urban area outside urban core	15%	16%	16%	15%	16%	92%
	Rural fringe	4%	3%	4%	4%	4%	Rural
	Rural area outside urban core	5%	4%	4%	4%	4%	8%
	Not Applicable	0%	0%	0%	0%	0%	
	Urban Rural	100%	100%	100%	100%	100%	
Community Health	Urban core	58%	64%	62%	70%	63%	
	Urban fringe	5%	5%	6%	6%	5%	Urban
	Urban area outside urban core	25%	24%	24%	15%	22%	89%
	Rural fringe	4%	3%	3%	5%	4%	Rural
	Rural area outside urban core	8%	5%	6%	4%	6%	10%
	Not Applicable	1%	0%	0%	0%	1%	
	Urban Rural	100%	100%	100%	100%	100%	
Construction Technologies	Urban core	54%	54%	54%	56%	54%	
	Urban fringe	4%	4%	4%	4%	4%	Urban
	Urban area outside urban core	31%	31%	32%	31%	31%	89%
	Rural fringe	4%	4%	3%	3%	4%	Rural
	Rural area outside urban core	8%	7%	7%	6%	7%	11%
	Not Applicable	0%	0%	0%	0%	0%	
	Urban Rural	100%	100%	100%	100%	100%	
Cosmetology	Urban core	70%	70%	71%	70%	71%	
	Urban fringe	4%	4%	4%	4%	4%	Urban
	Urban area outside urban core	21%	20%	19%	18%	19%	94%
	Rural fringe	3%	3%	4%	4%	3%	Rural
	Rural area outside urban core	3%	3%	3%	4%	3%	6%
	Not Applicable	0%	0%	0%	0%	0%	

Strand		*1998/99*	*1999/00*	*2000/01*	*2001/02*	*Total*	
	Urban Rural	100%	100%	100%	100%	100%	
Design Studies	Urban core	74%	74%	76%	75%	76%	
	Urban fringe	4%	3%	3%	3%	3%	Urban
	Urban area outside urban core	14%	16%	15%	15%	14%	94%
	Rural fringe	4%	3%	4%	5%	4%	Rural
	Rural area outside urban core	3%	3%	2%	3%	3%	6%
	Not Applicable	0%	0%	0%	0%	0%	
	Urban Rural	100%	100%	100%	100%	100%	
Electro-technologies	Urban core	86%	89%	86%	85%	88%	
	Urban fringe	3%	2%	4%	3%	2%	Urban
	Urban area outside urban core	9%	7%	7%	9%	7%	97%
	Rural fringe	1%	1%	1%	1%	1%	Rural
	Rural area outside urban core	1%	1%	2%	1%	2%	3%
	Not Applicable	0%	0%	0%	0%	0%	
	Urban Rural	100%	100%	100%	100%	100%	
Energy and Mines	Urban core	93%	92%	90%	90%	90%	
	Urban fringe	0%	0%	0%	1%	0%	Urban
	Urban area outside urban core	1%	5%	5%	4%	4%	94%
	Rural fringe	3%	2%	4%	3%	4%	Rural
	Rural area outside urban core	1%	1%	1%	2%	1%	5%
	Not Applicable	2%	0%	0%	0%	1%	
	Urban Rural	100%	100%	100%	100%	100%	
Enterprise and Innovation	Urban core	61%	54%	60%	63%	60%	
	Urban fringe	5%	6%	7%	6%	5%	Urban
	Urban area outside urban core	24%	28%	23%	16%	24%	88%
	Rural fringe	1%	2%	2%	5%	2%	
	Rural area outside urban core	9%	10%	8%	10%	9%	12%
	Not Applicable	0%	0%	0%	0%	0%	
	Urban Rural	100%	100%	100%	100%	100%	
Fabrication Studies	Urban core	54%	56%	56%	54%	55%	
	Urban fringe	3%	3%	3%	3%	3%	Urban
	Urban area outside urban core	32%	30%	31%	33%	32%	89%
	Rural fringe	3%	4%	3%	3%	4%	
	Rural area outside urban core	8%	7%	8%	7%	7%	11%
	Not Applicable	0%	0%	0%	0%	0%	
	Urban Rural	100%	100%	100%	100%	100%	
Fashion Studies	Urban core	66%	68%	69%	70%	68%	
	Urban fringe	3%	3%	3%	3%	3%	Urban
	Urban area outside urban core	22%	21%	20%	19%	20%	91%
	Rural fringe	3%	3%	3%	3%	3%	Rural
	Rural area outside urban core	7%	6%	5%	5%	6%	9%
	Not Applicable	0%	0%	0%	0%	0%	
	Urban Rural	100%	100%	100%	100%	100%	
Financial Management	Urban core	54%	56%	56%	59%	55%	
	Urban fringe	2%	1%	2%	1%	2%	Urban
	Urban area outside urban core	29%	29%	30%	30%	29%	86%

Strand		*1998/99*	*1999/00*	*2000/01*	*2001/02*	*Total*	
	Rural fringe	2%	3%	3%	2%	3%	Rural
	Rural area outside urban core	11%	10%	9%	7%	11%	13%
	Not Applicable	1%	0%	0%	0%	1%	
	Urban Rural	100%	100%	100%	100%	100%	
Foods	Urban core	65%	64%	64%	64%	65%	
	Urban fringe	4%	4%	4%	3%	4%	Urban
	Urban area outside urban core	22%	23%	22%	22%	22%	90%
	Rural fringe	3%	3%	4%	4%	4%	Rural
	Rural area outside urban core	6%	6%	6%	6%	6%	10%
	Not Applicable	0%	0%	0%	0%	0%	
	Urban Rural	100%	100%	100%	100%	100%	
Forestry	Urban core	46%	47%	46%	48%	47%	
	Urban fringe	10%	10%	4%	4%	8%	Urban
	Urban area outside urban core	24%	25%	28%	32%	27%	82%
	Rural fringe	7%	6%	5%	3%	5%	Rural
	Rural area outside urban core	11%	11%	17%	13%	13%	17%
	Not Applicable	2%	0%	0%	0%	0%	
	Urban Rural	100%	100%	100%	100%	100%	
Information Processing	Urban core	63%	64%	64%	64%	63%	
	Urban fringe	5%	5%	4%	4%	4%	Urban
	Urban area outside urban core	20%	20%	20%	21%	21%	88%
	Rural fringe	3%	4%	4%	4%	4%	Rural
	Rural area outside urban core	8%	8%	8%	8%	8%	11%
	Not Applicable	1%	0%	0%	0%	1%	
	Urban Rural	100%	100%	100%	100%	100%	
Legal Studies	Urban core	62%	64%	68%	68%	64%	
	Urban fringe	1%	1%	1%	3%	2%	Urban
	Urban area outside urban core	24%	23%	20%	18%	22%	88%
	Rural fringe	4%	3%	4%	5%	4%	Rural
	Rural area outside urban core	9%	9%	7%	6%	8%	12%
	Not Applicable	0%	0%	0%	0%	0%	
	Urban Rural	100%	100%	100%	100%	100%	
Logistics	Urban core	57%	67%	21%	27%	38%	
	Urban fringe	11%	13%	15%	7%	12%	
	Urban area outside urban core	32%	13%	65%	0%	22%	
	Rural fringe	0%	7%	0%	66%	26%	
	Rural area outside urban core	0%	0%	0%	0%	2%	
	Not Applicable	0%	0%	0%	0%	0%	
	Urban Rural	100%	100%	100%	100%	100%	
Management and Marketing	Urban core	59%	64%	69%	76%	65%	
	Urban fringe	1%	2%	2%	1%	1%	Urban
	Urban area outside urban core	24%	22%	20%	13%	19%	86%
	Rural fringe	5%	5%	5%	7%	5%	Rural
	Rural area outside urban core	9%	7%	4%	3%	8%	13%
	Not Applicable	2%	0%	0%	0%	1%	
	Urban Rural	100%	100%	100%	100%	100%	

Strand		*1998/99*	*1999/00*	*2000/01*	*2001/02*	*Total*	
Mechanics	Urban core	66%	69%	68%	68%	67%	
	Urban fringe	4%	4%	4%	5%	5%	Urban
	Urban area outside urban core	21%	20%	21%	20%	20%	92%
	Rural fringe	2%	2%	2%	2%	2%	Rural
	Rural area outside urban core	6%	5%	5%	5%	5%	8%
	Not Applicable	0%	0%	0%	0%	0%	
	Urban Rural	100%	100%	100%	100%	100%	
Tourism Studies	Urban core	58%	59%	60%	58%	59%	
	Urban fringe	8%	4%	3%	4%	5%	Urban
	Urban area outside urban core	23%	24%	23%	27%	23%	87%
	Rural fringe	3%	4%	7%	2%	4%	Rural
	Rural area outside urban core	9%	9%	6%	9%	9%	13%
	Not Applicable	0%	0%	0%	0%	0%	
	Urban Rural	100%	100%	100%	100%	100%	
Wildlife	Urban core	46%	62%	57%	58%	53%	
	Urban fringe	5%	3%	3%	4%	5%	Urban
	Urban area outside urban core	25%	15%	20%	22%	23%	81%
	Rural fringe	11%	7%	6%	4%	7%	Rural
	Rural area outside urban core	12%	12%	13%	12%	13%	19%
	Not Applicable	1%	0%	0%	0%	0%	
	Urban Rural	100%	100%	100%	100%	100%	

Appendix 6 - Interview results

CTS Interview Questions

Questions

1. **On a scale of 1 to 5 with 1 being not at all, and 5 being very much so, to what extent do you feel the CTS program's original mandate has been met pertaining to helping Alberta students.**

   a. Develop skills they can apply in daily living, now, and in the future -: (Explain)

   Principals/System Administrators

   "Good balance of skills to be used presently and perhaps in the future" (12)
   "Students have limited time to do broad exploration" (2)

   CTS Coordinators/Teachers

   "All useful skills developed even if only first level taken by students" (12)
   "Hands on is limited due to resources" (4)
   "Depends on the teacher" (2)
   "Students need to use fractions a lot"
   "Safety is good, skills are life-long-excellent"

   Internal/Department

   "Statistics show that more students are learning skills. Greater completions in intro. courses" (7)
   "Not sure if we have accomplished this" (5)
   "CTS can match student interests and school expertise" (3)
   "Schools do not give any attention to non-academic students" (2)
   "Future needs are not know. Things change quickly"
   "Change from time-based to competency based learning implies a change of attitude and of managing classrooms from a teachers point of view

   Stakeholders and Parents

   "Excellent. Introductory courses are great" (8)
   "CTS is not very effective at doing this (There are exceptions that do support this)" (4)

   Students

   "Yes. Teaches us skills we can use" (12)
   "Very important or helpful in future- Everyday skills" (2)
   "You learn how to present yourself"

   b. Make effective career choices -: (Explain)

   Principals/System Administrators

   "Students get a lot of exposure" (10)
   "Depends on the teacher and focus of the program (Counselors value university education- career counseling should be improved)" (3)
   "CTS have lost some direction. It became more general" (2)
   "Depends on the student…"
   "Perhaps career choices more apt than 'effective' career choices"

"Few students take my modules"

CTS Coordinators/Teachers

"Yes, wide range of choice for students" (13)

"To have more impact students would need to be open to trying a variety of strands" (5)

"Career practitioners are being plac4ed in all schools"

Internal/Department

"Students don't make the connection between CTS and careers" (9)

"Gives students an broad view of trade options. Helps students to screen out areas" (6)

"Part of teacher advisor program"

"School counselors don't have enough time to devote to career choices and smaller schools don't have career counselors"

Stakeholders and Parents

"Yes. CTS expose students to different areas. Helps students decide what they want to do." (9)

"Counselors aren't trained in career counseling" (8)

"Not well at all. CTS have not been very successful. Students need to connect to workplace" (5)

"Limited choice in rural areas"

Students

"CTS makes you more aware of career opportunities" (12)

"Learn how to work in the workplace" (2)

c. Prepare for entry into the workplace or further learning opportunities –: (Explain)

"General skills are developed, but not in-depth" (7)

"The students who take the modules for further training opportunities appear to do well in NAIT/SAIT" (4)

"Academic and community integration are essential to do this"

CTS Coordinators/Teachers

"No, there's a big gap between CTS courses and trade requirements." "I don't think workplace entry is a reasonable expectation after 3 levels of a high school program of studies" (7)

"The only really good strands are communication and construction technology"

"More impact if a student has 'chosen' a strand as a vocation" (5)

"CTS helps as a starting point" "Gives students a chance to try things out" (5)

Internal/Department

"Poor. Not effective" (7)

"Good if done the way they are intended" (6)

"Funding is too limited"

"Teacher availability/expertise isn't there"

Stakeholders and Parents

"Very good for prep. Into workplace." (6)

"Needs more integration with onsite experts" (4)

"Teachers from field/trades make the best teachers"

"Many students take computer/communication course. Their primary focus is personal"
"Academic and community integration are essential to do this"

Students

"Yes. I got a job because of my CTS experience" (9)
"Not so much" (3)

d. Overall

Principals/System Administrators

"CTS Generally appeals to the full range of students" (4)
"If students are engaged, then it is exciting. Most attractive to non-academic"
"The preparation gained by students is very moderate without substance"

CTS Coordinators/Teachers

"CTS was a blessing, now it needs to be improved" (4)
"Non-academic students have a chance to succeed" (2)
"Many students have limited time in their schedules" (2)

Stakeholders and Parents

"Students need a greater understanding of how they can use these skills in the future" (2)
"Special articulation review project is providing excellent information on how CTS is being recognized" (2)
"CTS is a great replacement for Voc. Ed"
"Needs more educator recognition/value"
"CTS has good potential, but it needs more focus"
"Program design is good. Effectiveness depends on the teacher"

Q2. How well do you think the CTS program addresses labor and workforce needs? (Explain.)

Principals/System Administrators

"Yes. It should reflect labor and workforce needs" (6)
"Co-op and career programs help achieve this" (4)
"Teachers are out of sync with workforce" (4)
"I don't think labor and workforce needs are a concern for the student"

CTS Coordinators/Teachers

"Yes, CTS should reflect labor/workplace needs" "We should partner with industry to ensure standards" (9)
"I don't think high school programs should address labor and workforce needs. I think post-secondary institutions should." (6)
"Well, also depends on how well the course is taught" (2)

Internal/Department

"Provides exposure to raise awareness but doesn't prepare students for the workplace" (9)
"Does it in best way possible without streaming students" (7)
"More resources are needed to do this better" (2)
"Workplace needs should be reviewed regularly"

"Need to formally articulate workplace needs with NAIT/Alberta Learning/ resources"
"Too much choice leads to loss of focus and confusion"
"Have to be careful that labor/workforce doesn't drive curriculum"
"I don't have the stats on this"

Stakeholders and Parents

"Not an essential role for CTS. It was intended more to give students and opportunity to explore" (9)
"CTS should reflect labor needs" (7)
"Programs like RAP are directly supportive"
"Student scheduling with employer is difficult"
"Safety issues are restrictive"

Q3. How well are the current CTS evergreening practices keeping up with demands? Explain what you would do differently.

Principals/System Administrators

"CTS beginning modules need to be updated. They're mostly out of date." "Not enough module development to keep updated." (9)
"Personnel and capital investment are difficult to keep up with" (3)
"Schools have to update the programs because Alberta Learning doesn't keep up" (3)
"Evergreening is good" (2)
"I don't know what evergreening should mean to me and my students" (2)
"Need to focus more on advance level courses"

CTS Coordinators/Teachers

"Evergreening processes don't keep up with need" (9)
"I have no idea how well the evergreening program is keeping up with demands" (2)
"Seems to be done quite well" (2)

Internal/Department

"Not done well at all. There isn't adequate funding to support a good plan" (7)
"Current practice of involving teachers makes it work in priority areas" (6)
"Hard to keep current with only 1 FTE" (4)
"Tech strand needs to be done annually. But there isn't enough staff to do so" (4)
"For Francophone, disappointing"

Stakeholders and Parents

"OK. Needs to be continually updated" (8)
"Information Processing is dated. It changes fast" (4)
"Fairly well. Alberta Learning is sensitive to the changes the field sees as priorities" (2)
"One consultant in broad areas is desirable"
"Alberta Learning shouldn't spend a lot of money in low uptake areas"
"Present evergreening practices are creating problems for NorQuest"

Q4. Are there some strands that should be expanded or deleted? (Explain)

Principals/System Administrators

"There are a rich variety of courses that fit both urban and rural needs" (3)
"Logistics shouldn't be promoted. It doesn't have a strong appeal" (2)
"I don't believe the concept of strands has been implemented"
"IT and computer tech are valuable"
"There are too many one-credit courses and strands. Reduce to 10-12 strands that match sectors of the economy"

CTS Coordinators/Teachers

"Always room for more strands related to regional differences and new career options" (7)
"No. Ok as is" (5)
"Info. Pro. needs to be 'tweaked' because it is outdated" (2)
"Pre-requisites should be modified or the teacher should have the discretion to by-pass a pre-requisite in some cases"

Q5 From your perspective:

a. What are the positive aspects of CTS?

Principals/System Administrators

"Provides a range of career exploration" (9)
"Teachers can adapt programs" (6)
"CTS supports links to well defined career pathways" (5)
"Practical hands on engagement in a variety of courses" (5)
"Provides students with a variety, non-academic focus, and flexibility" (4)
"Supports students who need an alternative to academics" (4)
"Gives students a chance to get 1 credit at a time" (3)
"The work experience is good"
"Competency based outcomes very good"
"Up to date curriculum"
"High teaching standards maintained"
"Helps keep students in school"
"Only Sr. high principals submit marks"

CTS Coordinators/Teachers

"Flexibility of one-credit course structure allows students to try a lot" (16)
"CTS is excellent 'hands on'. Students can do things" "Students can have 'hands on' learning" (6)
"Gives students a chance to complete the needed credits" (5)
"Self-satisfaction. Re: completing projects" (4)
"Giving an opportunity for students who do not excel at academics a chance to develop practical skills" (2)
"Packaging one credit courses at the school level is best"

Internal/Department

"Allows students to explore areas of interest" (17)
"Flexibility and choice afforded by the one-credit module" (12)
"Competency outcome structure very positive" "Excellent curriculum" (6)
"Easy to evergreen in the right environment" (3)

"Info. Processing is a very strong set of courses"

Stakeholders and Parents

"Opportunity to explore areas is excellent" (8)
"Flexibility of one-credit structure" (7)
"Hands on learning is excellent" (4)
"Curriculum documents are excellent" (4)
"Connects well with Tech. Prep. and student interests" (2)
"Could be further improved with more workplace experience"
"Great for non-academic students"
"New teachers are making a difference"
"Opportunity to partner with business is excellent"

Students

"Like how it's one-credit at a time" (4)
"Like the hands on work" 94)
"Learn many things" (4)
"Break from academic work" (3)
"Easy way to get credits"
"Related to my age group"

b. What are the challenges?

Principals/System Administrators

"Staffing. It's hard to find CTS teachers" (12)
"Upgrading of equipment is expensive and hard to keep current" (8)
"Record keeping for one-credit courses is a huge task" (8)
"Space to handle reasonable sized labs" (8)
"Difficult for teachers to keep up with changes. Not enough PD" (7)
"Safety is a primary concern" (6)
"Advanced level courses are designed for higher end academic students" (6)
"Recognition of CTS is limited" (4)
"Pre-requisites are generally OK. Good to get rid of one-credit courses at intermediate and advanced level" (3)
"CTS attracts mostly non-academic" (3)
"School counselors need specific training for career counseling" (3)
"Timetabling is difficult in relation to space" (2)
"Abuses related to academic integration- false earning of credits" (2)
"Inadequate career pathway links. CTS has linked well to both sides of post-secondary" (2)
"CTR project courses are being placed into some strands only"
"Distance Ed., AISI and other strategies help, but don't directly support hands-on"
"Magnate school concept doesn't work well in most cases"
"No consistency in Program offerings from school to school"
"Jr. high credits could overload credit in Sr. high"

CTS Coordinators/Teachers

"Info processing equipment/software is outdated" "Funding is inadequate" (13)
"Timetable doesn't allow academic students to fit in advanced level courses" (11)

"Record keeping is onerous. Both marks and keeping track of materials used"
"SIRS is dreadful" (9)
"Some alternate teacher training/update strategies are needed in fast growing skill areas" (9)
"Real problem finding teachers that have expertise" (9)
"Safety is #1. Always a challenge with dated equipment" (7)
"Class sizes are too big" (6)
"Teacher in-service: Was excellent in the first years but the in-services/conferences haven't kept up with changes" (5)
"Changes to the programs aren't communicated well to teachers" (4)
""Appropriateness of pre-requisites should be revisited" (4)
"CTS hasn't appealed equally to all students" (3)
"CTS career counseling needs to be developed for traditional counselors" (3)
"Space is a major issue. Can't offer senior level courses" (3)
"Jr. high CTS credits should be separated from Sr. high credits"
"Evaluation rubrics don't align with parental needs"
"In small communities, catholic/public differences make programs difficult to offer"
"Small schools can't offer all strands"
"One-credit courses don't allow for enough learning prior to mid-term mark"
"Work experience placements distract from students taking advanced level courses"
"Carrying the skills developed to other applications is not always achieved"
"Health of CTS shop teachers is not always attended to"

Internal/Department

"Funding for CTS is inadequate. Higher end courses are expensive" (7)
"Trained staff not always available" "Staff shortages" (7)
"Lack of communication about CTS to schools" (7)
"Courses should be bundled" "CTS use of one-credit is confusing in the field and some schools till want to bundle for convenience" (6)
"Career pathways aren't clearly defined" (6)
"CTS is viewed as most appropriate for non-academic students" (6)
"CEU is not the formula. It doesn't allow the schools the flexibility they need to make the best use of the courses" (4)
"Challenge is to look for ongoing efficiencies in monitoring, tracking and recording" (3)
"Schools inappropriately implementing CTS" (3)
"Difficult to offer in small schools and rural areas" (3)
"A counselor can't deliver career knowledge to students" (3)
"Maintaining updated curriculum as changes occur is challenging" (2)
"Safety is an ongoing issue"
"Distance learning and CTS is a problem"
"If Alberta Learning moves toward language learning or an increased emphasis on arts, it will be to the detriment of CTS"

Stakeholders and Parents

"Staffing. Can't find expert teachers" (19)

"Funding. Equipment is expensive. More funding for equipment is needed" (9)
"School systems don't promote CTS as a viable alternative" (9)
"Students that take only one beginning level course don't get a good basis in the strand" (8)
"Articulation to post-secondary should be adopted as a goal by Alberta Learning" (7)
"22 strands are too many. Some aren't really used" (5)
"Class sizes: Fewer students than in regular classes are needed" (2)
"The current policy wherein only Sr. high principals recommend CTS is limiting" (2)
"Schools see CTS as a cash grab" (2)
"One-credit courses are hard to timetable"
"Implementing the idea that learning can be accessed at the job-site"
"Alberta Learning has too few FTE's to manage the program"
"Requirement of a midterm mark doesn't fit with project driven courses"
"Record keeping and submitting marks is difficult"
"Schools should be given the authority to do the packaging"
"Monitoring needs to be improved"
"School counselors aren't trained to give career counseling"
"CTS is still seen as Voc. Ed"

Students

(Not exactly the same questions for students)

"Never any major problems" (7)
"Some labs don't have up to date [equipment], so we're at a disadvantage" (2)
"I had a hard time accomplishing some things" (2)
"Info. Pro. was too easy" (2)
"Classes are too big" (2)
"Good teachers are key" (2)
"Wouldn't change anything" (2)
"More creative projects. Let students design their own to take advantage of their strengths" (2)
"Info. Pro. needs higher standards"

Q6. How well do you feel the following documents and resources support the implementation of CTS?

d. CTS Program of Studies

Principals/System Administrators

"Good" (9)
"Not too familiar"

CTS Coordinators/Teachers

"OK/Fine" (8)
"OK, but somewhat vague" (3)
"OK, but should be updated more regularly"
"Generally know it, so I don't use it"

Internal/Department

"Good" (10)

"Too many courses for the needs of the field" (4)
"Becoming outdated. 10yrs in some cases"

e. CTS Guide to Standards and Implementation (for the 22 CTS strands)
Principals/System Administrators
"Good" (8)
"Don't know"
CTS Coordinators/Teachers
"Gives good information. Well done" (10)
"Evergreening is needed" (4)
"Haven't read it" (2)
"Assessment tool kit needs updating (better rubrics)" (2)

f. CTS Manual for Administrators, Counselors and Teachers
Principals/System Administrators
"Good" (7)
"Don't know it" (2)
"Clearer direction re: what facilities should look like"
CTS Coordinators/Teachers
"Haven't read it" (6)
"OK" (5)
"Fair, but administrators and counselors should read it" (2)
Internal/Department
"Good. It has trouble keeping current" (7)
"Not aware of it" (3)
"In French it is smaller. It is incomplete"

g. Guide to Education: ECS- grade12
Principals/System Administrators
"Good" (4)
"Fair. Access to instruction policy is not clear" (3)
CTS Coordinators/Teachers
"OK" (4)
"Access to instruction open to interpretation" (3)
"Don't know it" (2)
"Access to instruction policy is clear"
"Graduation requirements section very useful"
Internal/Department
"Good" (9)
"A little disjointed with funding manual"
"Teachers and instructors don't really use it"

h. Authorized Learning and Teaching Resources lists
Principals/System Administrators
"OK. Online is good" (6)
"Not as user friendly" (2)

"Haven't looked"
CTS Coordinators/Teachers
"Online fine- Good" (8)
"Updating by strand different website links would be good" (4)
"Unknown" (3)
Internal/Department
"Very good/comprehensive" (9)
"In French it is critical. Not enough"

i. Funding Manual for School Authorities
Principals/System Administrators
"Haven't used it" (3)
"Unclear- open to interpretation. Needs to be better aligned with manual" (3)
"Don't know it" (7)
"Generally useful, but it would be nice to match funding with skills/competencies" (2)
Internal/Department
"Supports it well" (6)
"Complex to follow"
"Don't use it"

Q7a. Is the information provided in the *Guide to Education* adequate, or are changes needed? (Explain)
Principals/System Administrators
"Clarify access to funding section" (2)
"Not familiar with it"
"Competency based structure is good. Some courses don't require 25hrs to meet outcomes"
CTS Coordinators/Teachers
"Better definition/clarity re: access to instruction" (2)
"Not applicable" (2)
"Adequate" (1)
Internal/Department
"Clarification required for various terms (i.e. access to instruction)" (9)
"The guide has just changed. The old one is good. The new one may need more information" (2)
"Funding manual and guide should be brought together more"

b. Is there sufficient information provided in the curriculum and support documents for CTS? (Explain)
Principals/System Administrators
"Sharing local resources collected for each module with other teachers would be great" (3)
"By and large… Yes" (2)
CTS Coordinators/Teachers

"Access to resource lists that are unique need to be listed in some type of clearinghouse center- each teacher develops their own resources (a lot of overlap)" (5)
"More examples re: program studies"
"Additional staff to provide technical lab expertise. (i.e. software, food safety and equipment)"
"Yes, the CTS guide to standards and implementation is clear. Like the resource list"

Internal/Department

"Yes. There's lots of information" (5)
"Use of CTS newsletter and 'Connections' is good" (3)
"Teachers need current information for some modules (i.e. Law). Case studies need to be provided" (2)
"All new documents should be developed on-line"
"More should be said in French"
"Need to do more to develop articulation to post-secondary/workplace"
"Some confusing areas (i.e. pre-requisites)"

c. Is there sufficient resource support for the implementation of CTS? (Explain)

Principals/System Administrators

"No. More money is needed to get more space and equipment to offer more strands. Particularly updating and replacing equipment" (32)
"For some strands there is" (2)
"Government needs more money support to manage programs" (2)

CTS Coordinators/Teachers

"Not enough funding to keep the equipment up to date" (17)
"Dollars to support teacher training are needed" (2)
"Funding to transport students to worksites isn't available (i.e. forestry and wildlife). Program was set up for in class students" (2)
"There's no way to carry over funding from year to year"
"Basically OK. My school is only 6 years old"

Internal/Department

"Funding for facilities and equipment is needed. More capital" (9)
"Internal to department- need to have more support" (6)
"There's a lack of training for CTS teachers in the province" (4)
"A provincial career pathway is needed" (2)
"Seems to be adequate" (2)

Stakeholders and Parents

"No. There are insufficient resources to maintain or purchase capital equipment. Space/facilities are not adequately supported" (11)
"Documents are great" (3)
"Trained teachers are hard to find"
"Urban schools have better resources than rural"

Q8. Are changes needed to the funding guidelines in the Funding Manual, Section 1.1 (Explain)?

Principals/System Administrators

"Need to align funding manual and guide" (6)

"Need to fund courses for what they cost. Fund seats" (5)

"Don't know about funding that takes place"

"Amount of communication between Alberta Learning and school (re: record keeping) is overwhelming"

CTS Coordinators/Teachers

"Don't know it" (3)

"Funding/evaluation of CTS is hard"

"Per module completed needs to be changed"

Internal/Department

"Lack of clarity creates confusion": (10)

- "Double-dipping needs to be addressed"
- "Need to distinguish funding between regular courses and CTS"
- "Guide to Ed. And Funding Manual need to be aligned and consistent"
- "Struggling with pre-requisites"

"Advantages of CEU funding are great. It forces principals to be entrepreneurial. Lends itself to outcomes based curriculum" (4)

Q9. On a scale of 1-5 where one means very easy and 5 means very difficult, how are the CTS programs to administer. Please explain why.

Principals/System Administrators

"Record-keeping is onerous" (4)

"Timetabling is hard" (4)

"Depends on teachers, course, safety etc." (3)

"More difficult than regular courses"

"Need a cash shot to update equipment"

"Alberta Learning needs to consider ways of finding trades-people to employ"

"Hard to maintain standards (equipment/software). Without a coordinator it would be extremely hard"

CTS Coordinators/Teachers

"CTS is harder than regular academic programs. Dealing with equipment etc makes it harder" (9)

"There is a need for a marking program that functions with one-credit marks."

"There's more record keeping" (3)

"Wood shop is easy" (2)

"CTS evaluation teachers would use help"

"I like the one-credit course structure"

"Jr. high CTS are OK. Collecting money and timetabling are challenges"

Internal/Department

(Not exactly same question for internal)

"Having effective policies that recognize education needs /learning rather than economic returns. (CEU approach lends itself to abuse)" (7)

"CEU formula is being used as a revenue generator" (5)

"More funding for evergreening" (5)
"Schools are asked to monitor and track one-credit, but Alberta Learning has no way of doing it" (5)
"Articulation" (4)
"There isn't enough CTS department staff to meet the development and design needs of new courses" (2)
"CTS is viewed as more peripheral than core"
"Competency based CTS are in conflict with traditional course objective 1 unit structures"
"The department is reactive rather than proactive"
"Integration of IOCT outcomes in core programs requires ongoing changes to CTS"
"Review H.S. Diploma to build more room for students to take CTS courses"
"Develop recommended bundled courses for schools with the option to offer as one-credit courses"
"Students can learn outside of school and teachers can be viewed as facilitators. But, there are union problems. People in the community should have more opportunity to act as mentors for a large proportion of CTS"
"The political environment to try and fix things isn't great"

Q9.1. Do you like the flexibility of the 1-credit course structure?

Principals/System Administrators

"Yes. School should decide how to package if they want to" (11)
"No. 3-credit would be good. One-credit is far too burdensome" (3)
"Outcomes based curriculum needs demonstration of outcomes only. No time based weighting for funding"

10. In relation to compliance issues, are there strategies that the department should consider to ensure compliance of implementation of CTS programming?

Principals/System Administrators

"Move back to per pupil funding (3 years per pupil). Then, move to CEU in 4 years" (10)
"CTS teacher training needs improvement" (6)
"Need a better record keeping system" (5)
"Enhanced communication re: CTS" (3)
"Monitoring should continue" (3)
"PD for staff to know how to best manage and deliver CTS" (3)
"All students should be required to take 10 CTS credits"
"Better CTS to community linkages"
"Alberta Learningshould consider CTS mobile concept in many districts"
"Tech prep should be awarded by Jr. high"

CTS Coordinators/Teachers

"Increased CEU monitoring is good. (Keeps people honest)" (8)
"AL Needs to develop better record keeping system- give teachers incentives to upgrade" (6)

"3-5 credits would help gauge learning mid-term better" (6)
"Com tech/Info processing need updating" (5)
"More money is needed. (To keep class sizes small and equipment updated)" (4)
"Current funding approach is schizophrenic. (Competency based but paid in part by considering time)" (4)
"Alberta Learning needs to get more involved in purchasing software" (3)
"Alberta Learning should consider more consolidation of rural schools" (2)
"Alberta Learning should consider giving incentives to businesses/parents for getting involved with CTS" (2)
"Other departments (i.e. Math) that give credits should pass it by CTS coordinator first"
"Alberta Learning should consider making 5 CTS credits mandatory for diploma"
"Teacher skills need to be constantly upgraded"

Internal/Department

"Maintain on-site monitoring and remove funding if non-compliance is identified" (18)
"Improved communication with all aspects of delivery" (9)
"Better prep at university with compulsory courses related to CTS" (5)
"Relate skills and knowledge more directly to career choices and pathways" (4)
"A province-wide campaign to revisit CTS" (4)
"It's all related to funding. Current under funding creates many issues" (2)
"Need to address incongruence within our own documents (1 credit = 25 hrs, 3 credits = 62.5hrs)" (2)
"Publish effective practices that show enhanced student learning" (2)
"ATA is problematic. What levers do we have to make them comply?"
"Should develop an electronic file that can be made available to student record vendors"
"Routine data analysis by Directors"
"Pre-requisite requirements need to be enforced"
"Introduce Superintendent sign off for funding applications"

Stakeholders and Parents

(Not exactly the same question for stakeholders)
"Incentives to attract CTS teachers (i.e. advance placement on grid). AL should look for industry sponsorship for individuals to be trained in industry and university" (18)
"Strong communications to promote CTS to students and a clearinghouse of ideas" (10)
"Alberta Learning should facilitate articulation better" (10)
"More resources" (8)
"Increased monitoring" (2)
"25hr/1-credit is a good guideline. But, competencies should be the key"
"CTS courses shouldn't be tied to core courses"
"NorQuest is facing a number of CTS challenges. It has proposed limiting funding for adult upgrading to 24 months, down from 40, effective Sept. 03"
"Should use post-secondary standards to gauge high school courses"
"CEU's need to be connected to hours"

"Reed Deer Catholic has developed its own tracking system"
"Career development counseling training needs to enhanced at the university level"

11. Other

Principals/System Administrators

"Better articulation" (2)
"Need to deal with staff shortage issues" (2)
"CTS needs to be re-defined with clearer outcomes"
"Alberta Learning has created it's own monster (re: one-credit CEU)"
"Don't use block funding"
"Jr. high CTS offering can be supported by Sr. high if 80% in the course"

Internal/Department

"Inter branch committees to ensure articulation"
"Stronger need for CTS than there was 10yrs ago"
"Need to take CTS to the next level. Something a bit different"

Appendix 7 – Credits awarded in bundled courses past the end date for the courses

Course Name	*1998/99*	*1999/00*	*2000/01*	*2001/02*	*End Date Year (All Aug. 31)*
Agriculture 10 (SCN1800)		5	5	5	99
Agriculture 1A (CTS4703)	3	0	0	0	98
Agriculture 1C (CTS4705)	25	10	15	5	98
Agriculture 1G (CTS4707)	0	3	0	0	99
Agriculture 20 (SCN2800)	5	0	5	0	98
Agriculture 2C (CTS5705)		0	5	5	99
Horticulture 12 (IED1916)	10	0	5	0	98
Horticulture 22A (IED2916)	5	0	0	5	98
Horticulture 32A (IED3916)	0	0	0	5	98
Career Transitions 1A (CTS4573)	18	9	6	0	98
Career Transitions 1C (CTS4575)	15	5	5	0	98
Career Transitions 1E (CTS4571)	2	1	0	0	98
Career Transitions 2C (CTS5575)	0	10	5	0	98
Career Transitions 2E (CTS5571)	0	1	0	0	98
Career Transitions 3A (CTS6573)	9	0	3	0	98
Career Transitions 3C (CTS6575)	10	0	0	0	98
Career Transitions 3E (CTS6571)	1	0	0	0	98
Communication Tech 1A (CTS4583)	42	12	24	3	98
Communication Tech 1B (CTS4584)	4	4	0	4	98
Communication Tech 1C (CTS4585)	210	185	125	115	98
Communication Tech 1D (CTS4586)	42	18	30	60	98
Communication Tech 1E (CTS4581)	2	1	0	0	98
Communication Tech 1F (CTS4582)	4	0	0	0	98
Communication Tech 1H (CTS4588)	15	5	15	0	98
Communication Tech 2A (CTS5583)	9	12	6	0	98
Communication Tech 2C (CTS5585)	95	50	35	30	98
Communication Tech 2D (CTS5586)	6	0	6	24	98
Communication Tech 2H (CTS5588)	15	0	5	0	98
Communication Tech 3C (CTS6585)	20	10	0	20	98
Communication Tech 3D (CTS6586)	18	0	0	0	98
Graphic Arts 22A (IED2904)	15	0	5	5	98
Graphic Arts 32A (IED3904)	0	5	0	5	98
Visual Communication 12 (IED1736)	95	45	30	40	98
Visual Communication 22A (IED2737)	40	10	15	30	98
Visual Communication 22B (IED2738)	0	5	0	5	98
Visual Communication 32A (IED3737)	25	5	15	5	98
Community Health 1C (CTS4545)	25	10	20	20	98
Community Health 1D (CTS4546)	6	0	0	0	98
Community Health 2A (CTS5543)	0	3	0	0	98
Community Health 2C (CTS5545)	10	0	0	10	98
Community Health 3A (CTS6543)	0	0	3	0	98
Community Health 3C (CTS6545)	5	10	0	5	98
Health Services 12 (IED1961)	5	0	5	5	98

Course Name	*1998/99*	*1999/00*	*2000/01*	*2001/02*	*End Date Year (All Aug. 31)*
Health Services 22 (IED2961)	10	0	5	0	98
Health Services 32A (IED3961)	0	5	0	0	98
Personal Living Skills 10 (HEC1621)		29	18	13	99
Personal Living Skills 20 (HEC2621)	0	36	3	30	99
Building Construction 12 (IED1836)		30	10	40	99
Building Construction 22A (IED2836)	50	20	15	30	98
Building Construction 32A (IED3836)	5	5	5	5	98
Building Construction 32B (IED3837)	0	5	0	0	98
Construction Tech 1A (CTS4653)	48	18	27	18	98
Construction Tech 1B (CTS4654)	0	0	8	0	98
Construction Tech 1C (CTS4655)	315	175	135	155	98
Construction Tech 1D (CTS4656)	48	78	30	48	98
Construction Tech 1E (CTS4651)	1	0	0	0	98
Construction Tech 1F (CTS4652)	4	0	0	0	98
Construction Tech 1G (CTS4657)	3	0	0	0	98
Construction Tech 1H (CTS4658)	0	5	0	5	98
Construction Tech 2A (CTS5653)	15	3	0	0	98
Construction Tech 2C (CTS5655)	60	50	35	30	98
Construction Tech 2D (CTS5656)	6	6	0	6	98
Construction Tech 2H (CTS5658)	10	0	5	5	98
Construction Tech 3A (CTS6653)	6	3	0	0	98
Construction Tech 3B (CTS6654)	4	0	0	0	98
Construction Tech 3C (CTS6655)	15	10	10	10	98
Construction Tech 3D (CTS6656)	12	0	0	0	98
Construction Tech 3E (CTS6651)	1	0	0	0	98
Construction Tech 3F (CTS6652)	2	0	0	0	98
Construction Tech 3G (CTS6657)	0	0	0	0	98
Industrial Education 10A (IED1727)		121	130	132	99
Industrial Education 10B (IED1728)		20	3	10	99
Industrial Education 10C (IED1741)		0	0	0	99
Industrial Education 10D (IED1742)		5	0	0	99
Industrial Education 20A (IED2727)				25	2001
Industrial Education 30A (IED3727)				14	2001
Beauty Culture 12 (IED1832)				10	98
Cosmetology 1A (CTS4513)	3	0	0	3	98
Cosmetology 1B (CTS4514)	4	0	0	0	98
Cosmetology 1C (CTS4515)	25	15	5	20	98
Cosmetology 1D (CTS4516)	18	0	0	0	98
Cosmetology 1E (CTS4511)	1	0	0	0	98
Cosmetology 1F (CTS4512)	2	0	0	0	98
Cosmetology 1H (CTS4518)	5	0	0	0	98
Cosmetology 2A (CTS5513)	3	0	0	0	98
Cosmetology 2B (CTS5514)	4	0	0	0	98
Cosmetology 2C (CTS5515)	10	10	5	10	98
Cosmetology 2D (CTS5516)	6	0	0	0	98

Course Name	*1998/99*	*1999/00*	*2000/01*	*2001/02*	*End Date Year (All Aug. 31)*
Cosmetology 2E (CTS5511)	1	0	0	0	98
Cosmetology 2F (CTS5512)	2	0	0	0	98
Cosmetology 2H (CTS5518)	5	0	0	0	98
Design Studies 1A (CTS4623)	45	9	12	9	98
Design Studies 1B (CTS4624)	4	0	4	0	98
Design Studies 1C (CTS4625)	185	150	70	75	98
Design Studies 1D (CTS4626)	54	24	18	36	98
Design Studies 1E (CTS4621)	1	0	1	0	98
Design Studies 1F (CTS4622)	2	0	0	0	98
Design Studies 1H (CTS4628)	0	20	10	0	98
Design Studies 2A (CTS5623)	9	6	3	3	98
Design Studies 2C (CTS5625)	40	35	20	25	98
Design Studies 2D (CTS5626)	6	12	6	0	98
Design Studies 2H (CTS5628)	0	0	5	0	98
Design Studies 3A (CTS6623)	0	6	0	0	98
Design Studies 3C (CTS6625)	5	10	10	0	98
Design Studies 3D (CTS6626)	12	0	0	0	98
Design Studies 3G (CTS6627)	0	5	0	0	98
Drafting 10 (IED1715)		57	28	46	99
Drafting 12 (IED1864)	30	14	0	5	98
Drafting 20 (IED2715)	18	0	10	21	98
Drafting 22A (IED2864)	5	5	0	10	98
Drafting 22B (IED2865)	5	0	0	0	98
Drafting 32A (IED3864)	10	0	0	0	98
Drafting 32B (IED3865)	5	0	0	0	98
Electricity 22A (IED2880)	5	0	0	0	98
Electricity 22B (IED2881)	5	0	0	0	98
Electro-Technologies 1A (CTS4663)	9	6	9	6	98
Electro-Technologies 1C (CTS4665)	60	45	40	50	98
Electro-Technologies 1D (CTS4666)	12	0	0	0	98
Electro-Technologies 1F (CTS4662)	4	0	0	0	98
Electro-Technologies 22A (IED2888)	20	5	10	0	98
Electro-Technologies 22B (IED2889)	0	5	0	0	98
Electro-Technologies 22C (IED2890)	0	5	0	0	98
Electro-Technologies 2C (CTS5665)	20	15	10	10	98
Electro-Technologies 32A (IED3888)	0	5	5	5	98
Electro-Technologies 32B (IED3889)	0	5	0	0	98
Electro-Technologies 32C (IED3890)	0	5	0	0	98
Electro-Technologies 3C (CTS6665)	0	5	5	5	98
Enterprise & Innov 1A (CTS4633)	21	6	3	0	98
Enterprise & Innov 1C (CTS4635)	60	45	35	30	98
Enterprise & Innov 1D (CTS4636)	18	0	0	0	98
Enterprise & Innov 1F (CTS4632)	2	2	0	0	98
Enterprise & Innov 2A (CTS5633)	3	6	0	3	98
Enterprise & Innov 2C (CTS5635)	15	5	10	0	98

Course Name	*1998/99*	*1999/00*	*2000/01*	*2001/02*	*End Date Year (All Aug. 31)*
Enterprise & Innov 3C (CTS6635)	5	10	0	0	98
Fabrication Studies 1A (CTS4673)	9	3	6	3	98
Fabrication Studies 1B (CTS4674)	8	0	4	0	98
Fabrication Studies 1C (CTS4675)	80	45	45	50	98
Fabrication Studies 1D (CTS4676)	6	6	24	0	98
Fabrication Studies 1F (CTS4672)	2	0	0	0	98
Fabrication Studies 1G (CTS4677)	0	3	0	0	98
Fabrication Studies 1H (CTS4678)	0	0	5	5	98
Fabrication Studies 2A (CTS5673)	3	3	6	3	98
Fabrication Studies 2B (CTS5674)	0	0	0	4	98
Fabrication Studies 2C (CTS5675)	10	15	5	15	98
Fabrication Studies 2D (CTS5676)	0	0	0	6	98
Fabrication Studies 2F (CTS5672)	0	0	0	2	98
Fabrication Studies 2G (CTS5677)	0	3	0	0	98
Fabrication Studies 2H (CTS5678)	0	0	0	5	98
Fabrication Studies 3A (CTS6673)	3	0	0	0	98
Fabrication Studies 3B (CTS6674)	0	0	0	4	98
Fabrication Studies 3C (CTS6675)	5	0	5	5	98
Fabrication Studies 3D (CTS6676)	0	0	0	6	98
Machine Shop 12 (IED1936)	20	5	5	10	98
Machine Shop 22A (IED2936)	10	15	0	5	98
Machine Shop 22B (IED2937)	5	5	0	0	98
Machine Shop 22C (IED2938)	5	0	0	0	98
Machine Shop 32A (IED3936)	5	0	0	0	98
Sheet Metal 22A (IED2968)	15	5	0	0	98
Sheet Metal 32A (IED3968)	0	5	0	0	98
Welding 22A (IED2980)	5	5	15	5	98
Welding 22B (IED2981)	0	0	5	0	98
Welding 32A (IED3980)	0	0	5	0	98
Clothing & Textiles 10 (HEC1601)	41	11	10	16	98
Clothing & Textiles 20 (HEC2601)	10	5	3	5	98
Clothing & Textiles 30 (HEC3601)	0	8	3	0	98
Fashion Studies 1A (CTS4643)	39	6	15	24	98
Fashion Studies 1B (CTS4644)	0	4	0	0	98
Fashion Studies 1C (CTS4645)	90	30	15	55	98
Fashion Studies 1D (CTS4646)	0	0	6	0	98
Fashion Studies 1E (CTS4641)	0	1	1	0	98
Fashion Studies 1G (CTS4647)	0	0	3	0	98
Fashion Studies 2A (CTS5643)	6	6	6	0	98
Fashion Studies 2C (CTS5645)	25	10	0	15	98
Fashion Studies 2D (CTS5646)	0	0	6	6	98
Fashion Studies 2E (CTS5641)	0	0	1	0	98
Fashion Studies 3C (CTS6645)	0	0	5	5	98
Financial Management 1A (CTS4603)	84	45	30	24	98
Financial Management 1C (CTS4605)	220	220	85	120	98

Course Name	*1998/99*	*1999/00*	*2000/01*	*2001/02*	*End Date Year (All Aug. 31)*
Financial Management 1D (CTS4606)	54	30	12	18	98
Financial Management 1E (CTS4601)	2	0	0	0	98
Financial Management 1F (CTS4602)	2	0	0	0	98
Financial Management 1J (CTS4609)	0	1	0	0	98
Financial Management 2A (CTS5603)	39	15	15	6	98
Financial Management 2B (CTS5604)	8	0	0	0	98
Financial Management 2C (CTS5605)	80	50	5	15	98
Financial Management 2D (CTS5606)	12	12	0	0	98
Financial Management 2E (CTS5601)	2	0	0	0	98
Financial Management 2F (CTS5602)	2	0	0	0	98
Financial Management 3A (CTS6603)	6	0	0	0	98
Financial Management 3C (CTS6605)	30	10	10	15	98
Financial Management 3D (CTS6606)	0	6	6	0	98
Food Preparation 12 (IED1896)	30	30	5	5	98
Food Preparation 22A (IED2896)	15	10	5	10	98
Food Preparation 22B (IED2897)	10	10	5	0	98
Food Preparation 22C (IED2898)	5	10	0	0	98
Food Preparation 32A (IED3896)	5	5	0	0	98
Food Studies 10 (HEC1611)	237	91	56	53	98
Food Studies 20 (HEC2611)	58	30	10	28	98
Food Studies 30 (HEC3611)	5	15	15	0	98
Foods 1A (CTS4533)	114	54	42	54	98
Foods 1B (CTS4534)	4	0	0	0	98
Foods 1C (CTS4535)	370	340	220	225	98
Foods 1D (CTS4536)	66	54	72	84	98
Foods 1E (CTS4531)	1	0	0	0	98
Foods 1F (CTS4532)	0	0	0	2	98
Foods 1G (CTS4537)	12	0	0	0	98
Foods 1H (CTS4538)	5	5	20	5	98
Foods 1K (CTS4540)	0	0	2	0	98
Foods 2A (CTS5533)	18	12	6	0	98
Foods 2C (CTS5535)	65	95	30	55	98
Foods 2D (CTS5536)	30	0	36	6	98
Foods 2H (CTS5538)	10	5	10	0	98
Foods 3A (CTS6533)	9	6	0	3	98
Foods 3C (CTS6535)	20	5	0	30	98
Foods 3D (CTS6536)	6	0	6	0	98
Foods 3G (CTS6537)	5	0	0	0	98
Foods 3H (CTS6538)	5	0	0	0	98
Forestry 1C (CTS4725)	5	0	15	0	98
Information Processing 1A (CTS4613)	300	81	162	81	98
Information Processing 1B (CTS4614)	12	0	0	4	98
Information Processing 1C (CTS4615)	1155	685	505	455	98
Information Processing 1D (CTS4616)	402	210	150	144	98
Information Processing 1E (CTS4611)	2	0	0	1	98

Course Name	*1998/99*	*1999/00*	*2000/01*	*2001/02*	*End Date Year (All Aug. 31)*
Information Processing 1F (CTS4612)	2	0	2	4	98
Information Processing 1G (CTS4617)	81	9	33	3	98
Information Processing 1H (CTS4618)	75	30	15	20	98
Information Processing 2A (CTS5613)	75	18	39	24	98
Information Processing 2B (CTS5614)	8	0	4	0	98
Information Processing 2C (CTS5615)	300	200	135	150	98
Information Processing 2D (CTS5616)	48	66	42	72	98
Information Processing 2F (CTS5612)	6	0	0	2	98
Information Processing 2G (CTS5617)	9	3	6	0	98
Information Processing 2H (CTS5618)	55	5	5	5	98
Information Processing 3A (CTS6613)	6	0	6	0	98
Information Processing 3C (CTS6615)	45	30	50	30	98
Information Processing 3D (CTS6616)	24	0	0	6	98
Information Processing 3G (CTS6617)	5	0	0	5	98
Information Processing 3H (CTS6618)	5	5	5	5	98
Legal Studies 1A (CTS4553)	21	12	6	0	98
Legal Studies 1C (CTS4555)	45	35	20	25	98
Legal Studies 1D (CTS4556)	0	0	6	0	98
Legal Studies 1E (CTS4551)	1	0	0	0	98
Legal Studies 2A (CTS5553)	21	3	0	0	98
Legal Studies 2B (CTS5554)	4	0	0	0	98
Legal Studies 2C (CTS5555)	15	15	5	15	98
Legal Studies 3A (CTS6553)	6	3	0	12	98
Legal Studies 3C (CTS6555)	55	65	30	35	98
Legal Studies 3E (CTS6551)	0	1	0	0	98
Legal Studies 3K (CTS6560)	0	0	2	0	98
Logistics 1A (CTS4755)	0	3	0	0	98
Basic Business 10 (BUS1541)	35	30	10	10	98
Basic Business 20 (BUS2541)				73	2001
Basic Business 30 (BUS3541)				20	2001
Business Education 10 (BUS1542)	193	90	41	46	98
Business Education 20 (BUS2542)	71	15	13	13	98
Business Education 30 (BUS3542)	15	0	13	20	98
Management & Marketing 1A (CTS4593)	3	6	6	0	98
Management & Marketing 1C (CTS4595)	90	45	35	25	98
Management & Marketing 1D (CTS4596)	12	6	0	0	98
Management & Marketing 1E (CTS4591)	1	0	0	0	98
Management & Marketing 2A (CTS5593)	0	3	0	12	98
Management & Marketing 2C (CTS5595)	35	10	10	0	98
Management & Marketing 2D (CTS5596)	6	0	0	0	98
Management & Marketing 3C (CTS6595)	25	5	0	5	98
Office Procedures 20 (BUS2545)	15	10	0	5	98
Office Procedures 30 (BUS3545)	10	0	0	5	98
Auto Body 12 (IED1816)	10	5	5	10	98
Auto Body 22A (IED2816)	0	0	5	5	98

Course Name	*1998/99*	*1999/00*	*2000/01*	*2001/02*	*End Date Year (All Aug. 31)*
Auto Body 22B (IED2817)	0	0	0	5	98
Auto Body 32A (IED3816)	0	0	5	0	98
Automotives 22A (IED2824)	5	0	5	15	98
Automotives 22B (IED2825)	0	0	5	5	98
Automotives 22C (IED2826)	0	0	5	5	98
Automotives 32A (IED3824)	0	0	0	10	98
Automotives 32C (IED3826)	0	0	0	5	98
Mechanics 12 (IED1746)		35	40	20	99
Mechanics 1A (CTS4683)	36	18	0	3	98
Mechanics 1B (CTS4684)	4	0	4	0	98
Mechanics 1C (CTS4685)	205	105	75	85	98
Mechanics 1D (CTS4686)	12	48	35	12	98
Mechanics 1E (CTS4681)	1	0	0	0	98
Mechanics 1F (CTS4682)	2	0	0	0	98
Mechanics 1G (CTS4687)	6	0	0	0	98
Mechanics 1H (CTS4688)	20	5	10	10	98
Mechanics 2A (CTS5683)	3	3	0	0	98
Mechanics 2C (CTS5685)	85	25	35	5	98
Mechanics 2D (CTS5686)	18	0	6	0	98
Mechanics 2H (CTS5688)	15	10	5	0	98
Mechanics 3C (CTS6685)	10	15	0	5	98
Mechanics 3H (CTS6688)	0	5	0	0	98
Related Mechanics 22A (IED2809)	25	10	10	25	98
Related Mechanics 22B (IED2810)	5	0	5	0	98
Related Mechanics 32A (IED3809)	0	5	5	0	98
Tourism Studies 1A (CTS4563)	3	0	0	3	98
Tourism Studies 1C (CTS4565)	15	5	10	5	98
Tourism Studies 1D (CTS4566)	0	0	0	6	98
Tourism Studies 2A (CTS5563)	3	0	0	0	98
Tourism Studies 2C (CTS5565)	15	5	0	0	98
Tourism Studies 3A (CTS6563)	3	3	0	3	98
Tourism Studies 3C (CTS6565)	0	0	5	0	98
Wildlife 1A (CTS4733)	3	0	0	0	98
Total	9934	4982	3719	3955	na

Appendix 8 - Oregon's Career Learning Frameworks

Career Learning Frameworks
Office of Professional Technical Education - ODE

Some documents on this site are in PDF (▭) format and require Adobe Acrobat Reader.

Career learning frameworks are planning tools that integrate learning in a career context. These tools are used to guide the development of the student's education plan and learning experiences. The frameworks may also be used to guide the development of programs centered on career learning. Connected to the students' interests and goals, frameworks provide a meaningful and relevant context for learning.

Career learning frameworks describe:

A broad grouping of related careers

Educational requirements associated with careers in a broadly defined career path. (The broad career paths are listed below- Arts & Communication, Business & Management etc)

Concepts, issues, knowledge and skills common to careers in the broad career path.

Suggested extended applications that reflect roles and expectations common to a broad career path.

Career learning frameworks help students gain a deeper and broader view of their career interests and the expectations required for post high school employment and postsecondary training and education. They provide a context for teachers that connect instruction and curriculum to real world applications. The frameworks provide a common focus for employer and education partnerships, postsecondary connects, and to mobilize community support.

Career learning frameworks are currently available in the following career categories:

The following links are in PDF format:

Arts & Communications ▭
Business & Management ▭
Human Resources ▭
Health Services ▭
Industrial & Engineering Systems ▭
Natural Resource Systems ▭
Other
Information Technology ▭

The following links are in Microsoft Word 2000 format:

Arts Communications W
Business Management W
Human Resources W
Health Services W
Industrial Engineering Systems W
Natural Resource Systems W
Other
Information Technology W

Career and Life Role Common Curriculum Goals and Career-Related Learning Standards

This document shows the K-12 alignment of Career and Life Role Common Curriculum Goals with the CAM Career-Related Learning Standards.

This document will be revised and refined during the 2001-02 school year to include revision to the Career-Related Learning Standards described in the CAM Guide for School (December 2001)